

حمل الآن

مجاناً وحصرياً

# المراجعة رقم (1)

## الترم الاول



## Final revision algebra prep2 unit 1

### 1. Complete :

- 1)  $[2, 5] \cup [1, 3] = \dots\dots\dots$
- 2)  $(2^3\sqrt{3})^3 = \dots\dots\dots$
- 3) The conjugate number of the number  $\frac{2}{\sqrt{5}-\sqrt{3}}$  is  $\dots\dots\dots$
- 4) The additive identity in  $\mathbb{R}$  is  $\dots\dots\dots$  and the multiplicative neutral in  $\mathbb{R}$  is  $\dots\dots\dots$
- 5) The additive inverse of the element  $-\sqrt{3}$  in  $\mathbb{R}$  is  $\dots\dots\dots$
- 6) The multiplicative inverse of the element  $\frac{1}{\sqrt{3}}$  is  $\dots\dots\dots$
- 7) The additive inverse of the number  $(2-\sqrt{5})$  is  $\dots\dots\dots$
- 8)  $\sqrt[3]{\frac{8x^3}{125a^9}} = \dots\dots\dots$
- 9)  $\sqrt[3]{216} = \sqrt{\dots\dots\dots}$
- 10)  $\sqrt{25} = \sqrt[3]{\dots\dots\dots}$
- 11)  $\sqrt{3} \times \sqrt{6} = 3 \times \dots\dots\dots$
- 12)  $-1 \dots\dots\dots [-3, 0[$  ( $\in, \notin$ )
- 13)  $] -4, 3 ] - \mathbb{R}_+ = \dots\dots\dots$
- 14)  $-3 \dots\dots\dots [-1, 4]$  ( $\in, \notin$ )
- 15)  $\mathbb{R} - [-2, \infty[ = \dots\dots\dots$
- 16)  $\sqrt{64} \dots\dots\dots ] 6, \infty [$  ( $\in, \notin$ )
- 17)  $Q \cap Q' = \dots\dots\dots$
- 18)  $Q \cup Q' = \dots\dots\dots$
- 19)  $\mathbb{R} - Q = \dots\dots\dots$
- 20)  $\mathbb{R} \cap \mathbb{R}_+ = \dots\dots\dots$
- 21)  $\mathbb{R} \cup \mathbb{N} = \dots\dots\dots$
- 22)  $|-5| \dots\dots\dots [5, 9[$  ( $\in, \notin$ )
- 23)  $\sqrt{2} \dots\dots\dots [2, 5]$  ( $\in, \notin$ )
- 24)  $3 \dots\dots\dots ] 3, 6]$  ( $\in, \notin$ )
- 25) If  $x^2 = 36$ , then  $x^3 = \dots\dots\dots$
- 26)  $2\sqrt{3} \times 3\sqrt{5} = \dots\dots\dots$
- 27) If  $x^3 = 125$ , then  $x^2 = \dots\dots\dots$
- 28)  $\sqrt{3}(\sqrt{6}-\sqrt{8}) = \dots\dots\dots$
- 29) The irrational number is the number that we cannot write in the form  $\dots\dots\dots$
- 30) The conjugate of irrational number  $\sqrt{7}+1$  is  $\dots\dots\dots$
- 31) The conjugate of irrational number  $-2+\sqrt{2}$  is  $\dots\dots\dots$
- 32)  $] -\infty, 4 ] \cap [-1, \infty [ = \dots\dots\dots$

33)  $\sqrt[3]{-125a^6} + \sqrt{25a^4} = \dots\dots\dots$

34) If  $a^2 + 4 = 0$  then its S.S in R is .....

35) If the area of a circle is  $154 \text{ cm}^2$  then its radius is .....

2. Choose the correct answer:

1)  $\sqrt[3]{2} + \sqrt[3]{2} = \dots\dots\dots$

(a)  $\sqrt[3]{2}$  (b)  $\sqrt[3]{4}$  (c)  $\sqrt[3]{8}$  (d)  $2\sqrt[3]{2}$

2)  $[-3, 7] - \{-3, 7\} = \dots\dots\dots$

(a)  $] -3, 7 [$  (b)  $[-3, 7 [$  (c)  $] -3, 7 ]$  (d)  $[-2, 6 ]$

3) The Multiplicative inverse of the number  $\frac{\sqrt{3}}{9}$  is .....

(a)  $3\sqrt{3}$  (b)  $\sqrt{3}$  (c) 3 (d) 3

4) The set of non negative real numbers can be written in the form of an interval as ...

(a)  $[0, \infty[$  (b)  $]0, \infty[$  (c)  $] - \infty, 0 [$  (d)  $] - \infty, 0 ]$

5) The set of positive real numbers can be written in the form of an interval as .....

(a)  $[0, \infty[$  (b)  $]0, \infty[$  (c)  $] - \infty, 0 [$  (d)  $] - \infty, 0 ]$

6)  $\sqrt{64} - \sqrt[3]{64} = \dots\dots\dots$

(a)  $\sqrt{64}$  (b) 4 (c) 8 (d)  $\sqrt[4]{4}$

7) If  $8y^3 = -125$  then  $y = \dots\dots\dots \left( \frac{5}{8}, \frac{-5}{2}, \frac{-125}{2}, -5 \right)$

3) If  $X = [3, 7]$ ,  $Y = [1, \infty [$  then find using the number line :

a)  $X \cup Y$

b)  $X \cap Y$

c)  $X - Y$

d)  $Y - X$

e)  $X^c$

f)  $Y^c$

**4) simplify :**

1)  $\sqrt[3]{125} - \sqrt[3]{24}$

2)  $7\sqrt{2} + 3\sqrt{2}$

$\sqrt{75} - 2\sqrt{27} + 3\sqrt{3}$

$\sqrt{18} + 2\sqrt{8} - \sqrt{24}$

5)  $\sqrt[3]{54} - 2\sqrt[3]{-128} + \sqrt[3]{16}$

6)  $\sqrt[3]{54} + 8\sqrt[3]{\frac{-1}{4}} + 5\sqrt[3]{16}$

---

---

5) Given  $x = \frac{4}{\sqrt{7} - \sqrt{3}}$  and  $y = \sqrt{7} - \sqrt{3}$

Prove that :  $x$  and  $y$  are Conjugates , then find :  $x^2 - y^2$

6) If  $x = \sqrt{8} + \sqrt{3}$  and  $y = \sqrt{8} - \sqrt{3}$  , find the value of  $\frac{x+y}{xy-3}$

7) If  $x = \sqrt{2} + \sqrt{5}$  ,  $y = \sqrt{2} - \sqrt{5}$

Find the value of the expression:  $x^2 + 2xy + y^2$

---

---

**8) find the S.S in R :**

a)  $3x^2 + 125 = 221$

b)  $2x^2 + 3 = 21$

c)  $3x^3 + 1 = 82$

d)  $(x^2 + 2)^3 = 64$

---

---



**(9) Prove that:**

- 1)  $\sqrt{2}$  is included between 1.4 and 1.5
- 2)  $\sqrt[3]{2}$  is included between 1.2 and 1.3
- 3)  $\sqrt{3} + 1$  is included between 1.2 and 2.8

**(10) Determine the point that represents each of following numbers on the number line:**

- 1)  $\sqrt{5}$
- 2)  $-\sqrt{5}$
- 3)  $\sqrt{5} + 1$
- 4)  $1 - \sqrt{5}$

**11) Solve in R the following and represent them on the number line:**

- 1)  $2X - 3 \geq 1$
- 2)  $3(X - 1) < 9$
- 3)  $5 < X + 3 < 11$
- 4)  $1 \leq 2X - 1 \leq 9$
- 5)  $5 < 7 - X \leq 8$
- 6)  $4X + 3 \leq 6X + 5$
- 7)  $3(X + 2) > 5X$
- 8)  $2 - 3(X - 5) \geq X + 7$
- 9)  $3x - 3 \leq 7X + 1 \leq 3X + 17$

12) The lateral area of a right circular cylinder  $52\text{cm}^2$  and the length of its diameter is 8cm. find its volume. ( $\pi = 3.14$ )

13) If the height of a right circular cylinder equals its radius length and its volume is  $72\pi\text{cm}^3$ , find its height.

14) A metallic sphere with diameter length 6cm. has got melt and changed in to a right circular cylinder with radius 3 cm. find its height.

15) The volume of a sphere is  $562.5\pi\text{cm}^3$  find its surface area in terms of  $\pi$

## Final revision on unit 2

### (1) Complete:

- 1) The slope of the straight line which passes through the points  $(-1, 4)$  ,  $(2, 4)$  is .....
- 2) The slope of any straight line parallel to  $x$  – axis = .....
- 3) The slope of any straight line parallel to  $y$  – axis is .....
- 4) If  $(-2, 7)$  satisfies the relation  $2x + ky = 9$  , then  $k = \dots\dots\dots$
- 5) If the slope of the straight line passing through  $(2, c)$  and  $(3, -1)$  is 4 , then  $c = \dots\dots\dots$
- 6) If  $(4x, -6) = (12, 3y)$  , then  $x = \dots\dots\dots$  and  $y = \dots\dots\dots$
- 7) If  $(a, 3)$  is one of the solutions of the equation  $x - 3y = 13$  ,  
then  $a = \dots\dots\dots$
- 8) The slope of any horizontal line = .....
- 9) The slope of any vertical line = .....
- 10) 4–If  $(K, 3K)$  satisfies the relation  $X + 5Y = 15$ , then  $K = \dots\dots\dots$

### (2) Find the slope of the straight line which passes through the points:

- |                          |                            |
|--------------------------|----------------------------|
| 1) $(4, 3)$ , $(2, 5)$   | 2) $(-6, -2)$ , $(-3, -4)$ |
| 3) $(4, -2)$ , $(4, -7)$ | 4) $(-5, -3)$ , $(-2, -3)$ |

### (4) Graph each of the following relations:

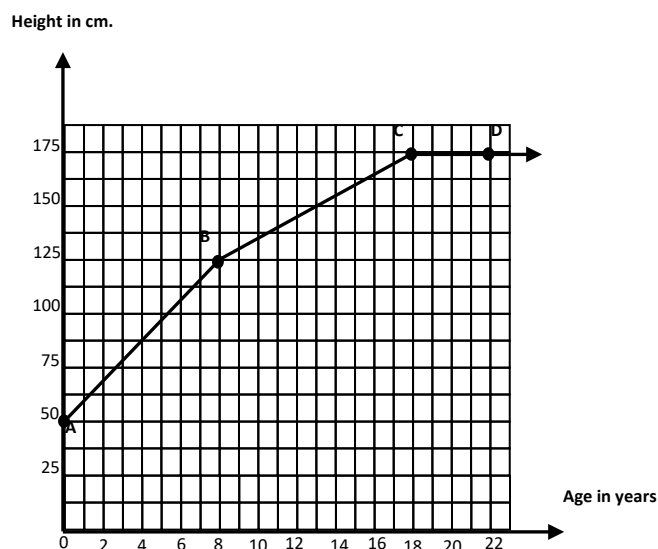
- |                 |                |
|-----------------|----------------|
| 1) $y = 2x + 1$ | 2) $x + y = 2$ |
| 3) $y = 3$      | 4) $2x = 4$    |

5) the opposite figure shows the relation between the height of a person (in cm.) and his age (in years):

1. Find the slope of  $\overrightarrow{AB}$ ,  $\overrightarrow{BC}$  and  $\overrightarrow{CD}$

What is the meaning of each?

2. Calculate the difference between the height of this person when he was 8 years old and his height when he was years old.



### Final revision on unit 3

6) A class has 50 pupils , the following table shows the distribution of studying hours between them every day :

Sets	1-	2-	3-	4-	5-	6-	7-	Total
Frequency	2	3	5	12	15	7	6	50

a) Find the mode mark using the histogram of this distribution.

b) Find the median

c) find the mean

(2) The following table shows the frequency distribution of the weights of 50 students in kilograms :

Weight in Kg.	30-	35-	40-	45-	50-	55-	Total
No. of students	K+4	3K	4K	3K+1	3K-1	K+1	50

**Find:**

(A) The value of K.

(B) Graph the frequency histogram , then find the mode weight.

**1)Complete each of the following:**

- 1- The mode of a set of values is .....
- 2- The mode of the values 3,6,10,13,19,19,21 is .....
- 3- If the mode of the values  $\frac{1}{3}$  ,  $\frac{1}{7}$  ,  $\frac{1}{5}$  ,  $\frac{1}{7}$  is  $\frac{1}{X}$  then x = .....
- 4- The mode of the values 8 , 11 , 5 , 8 , 4 , 5 , 4 , 11 , 4 is .....
- 5- If the mode of the values a+2 , a+1 , a+3 , a+2 equals 12, then a=.....

**1) Choose the correct answer from those given:**

- 1- The median of the values : 8,17,4,6,10 is .....  

**a)11****b)10****c)8****d)6**
- 2- The median of the values : 3,7,2, 9, 5,11 is .....  

**a) 5****b)6****c)7****d)12**
- 3- The median of these numbers : 2,5,5,6,7,9,11,14,16,21 is .....  

**a)7****b)8****c)9****d)16**
- 4- If the order of the median of a number of values is the third then the number of these values is .....  

**a)3****b)4****c)5****d)6**

**1) Choose the correct answer from the given ones:**

- 1- The mean of the values 5,12,6,17 is .....

a)3                  b)4                  c)5                  d)10
- 2- The mean of these numbers 2,5,8,9,14,28 is .....

a)6                  b)8                  c)9                  d)11
- 3- If the mean of the values 3 , 4 , 8 , a , a+2 is 15 , then a = .....

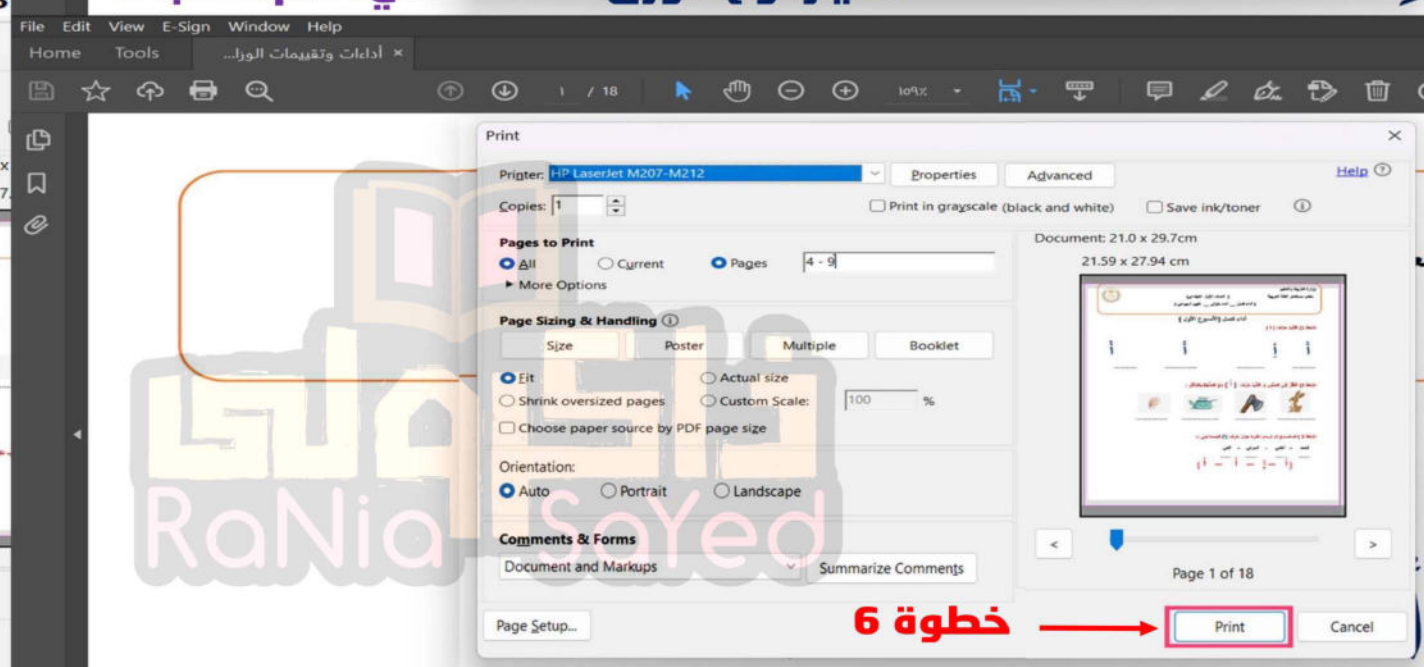
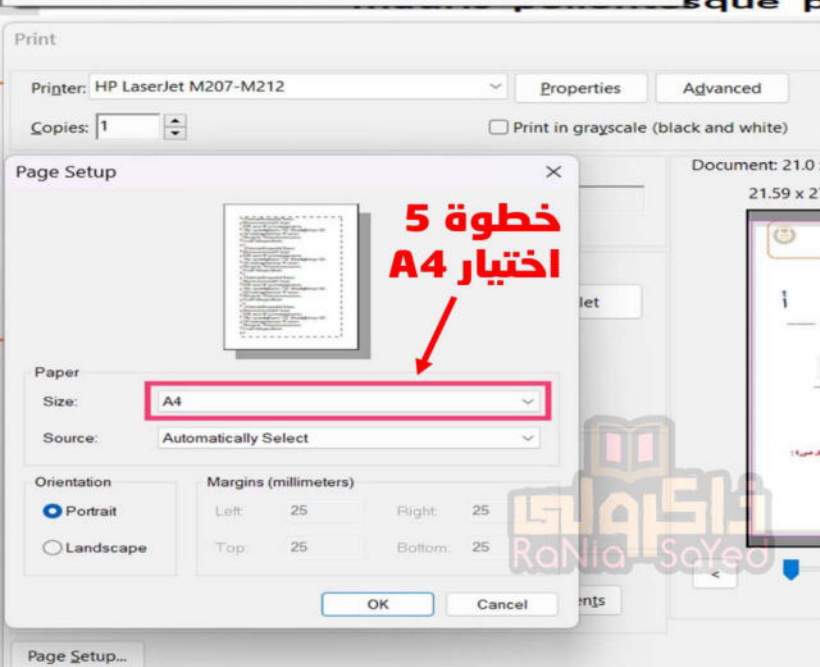
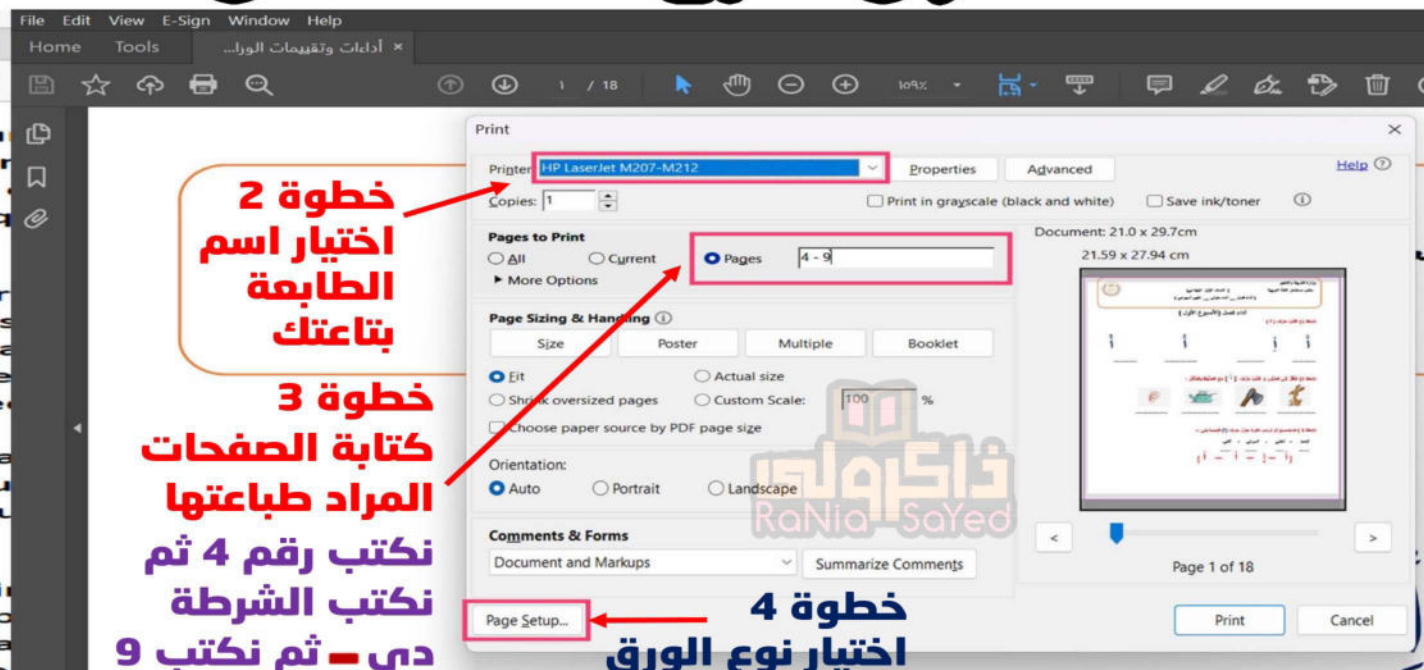
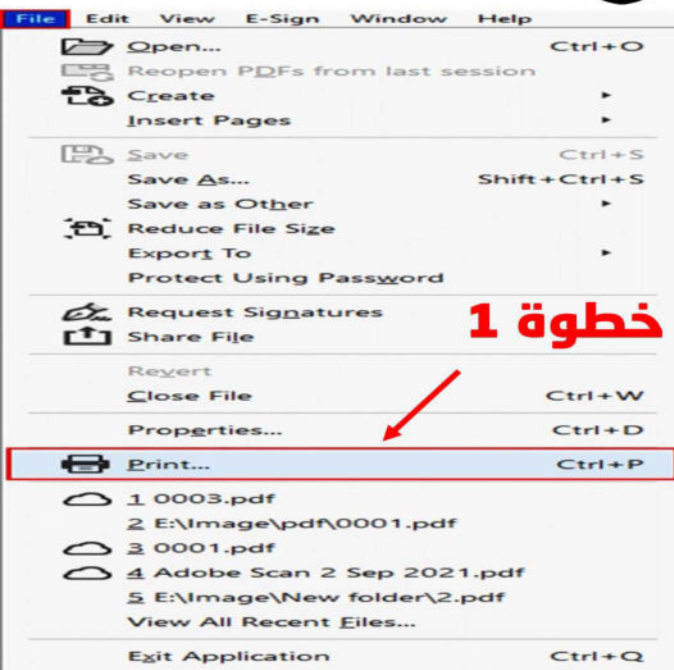
a)29                  b)58                  c)75                  d)17
- 4- The mean of the values  $2 - a$  , 4 , 1 , 5 ,  $3 + a$  is .....

a)1                  b)2                  c)3                  d)15
- 5-If the mean of side lengths of a triangle is 8 , then the perimeter of triangle .....

a)8 cm              b)18 cm              c)24 cm              d)15

# كيفية طباعة صفحات معينة من ملف معين

## مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



حمل الآن

مجاناً وحصرياً

# المراجعة رقم (2)

## الترم الاول







1	<p><b>1</b> Choose the correct answer from the given ones :</p> <p>If <math>x &gt; 3</math> , then <math>-x</math> .....</p> <p>(a) <math>&lt; 3</math>                      (b) <math>&gt; -3</math>                      (c) <math>&lt; -3</math>                      (d) <math>&lt; \frac{-1}{3}</math></p>
2	<p>The median of the values : 34 , 23 , 25 , 40 , 22 , 4 is .....</p> <p>(a) 22                      (b) 23                      (c) 24                      (d) 25</p>
3	<p>If the point (a , 1) satisfies the relation <math>x + y = 5</math> , then a = .....</p> <p>(a) 1                      (b) -4                      (c) 4                      (d) 5</p>
4	<p>If the mode of the values 4 , 11 , 8 , 2 x is 4 , then <math>x =</math> .....</p> <p>(a) 2                      (b) 4                      (c) 6                      (d) 8</p>
5	<p>If the lower limit of a set is 4 and the upper limit is 8 , then its centre is .....</p> <p>(a) 2                      (b) 4                      (c) 6                      (d) 8</p>
6	<p>The solution set of the equation : <math>x(x^2 - 1) = 0</math> , <math>x \in \mathbb{R}</math> is .....</p> <p>(a) <math>\{0\}</math>                      (b) <math>\{1\}</math>                      (c) <math>\{-1\}</math>                      (d) <math>\{0, -1, 1\}</math></p>
7	<p>The solution set of the equation <math>x^2 + 9 = 0</math> in <math>\mathbb{R}</math> is .....</p> <p>(a) <math>\emptyset</math>                      (b) <math>\{-3\}</math>                      (c) <math>\{3\}</math>                      (d) <math>\{3, -3\}</math></p>
8	<p>If (2 , 5) satisfies the relation <math>3x + y = c</math> , then c = .....</p> <p>(a) 1                      (b) -1                      (c) 11                      (d) -11</p>
9	<p><math>\mathbb{Q} \cup \mathbb{Q} =</math> .....</p> <p>(a) <math>\emptyset</math>                      (b) 0                      (c) <math>\mathbb{R}</math>                      (d) <math>\mathbb{Z}</math></p>
10	<p>The slope of any line parallel to x-axis equals .....</p> <p>(a) 1                      (b) undefined                      (c) -1                      (d) zero</p>

**100**



11	If the mode of the values 5 , 8 , $6 + x$ , 9 is 9 , then $x = \dots\dots\dots$ (a) 5 (b) 6 (c) 3 (d) 8
12	$2 \in \dots\dots\dots$ (a) $] -1 , \infty[$ (b) $] 2 , 5[$ (c) $] -\infty , 1[$ (d) $\{22\}$
13	$\sqrt[3]{25} - \sqrt[3]{-125} = \dots\dots\dots$ (a) zero (b) 10 (c) 5 (d) $\pm 5$
14	The multiplicative inverse of $\frac{\sqrt{2}}{6}$ is $\dots\dots\dots$ (a) $\sqrt{2}$ (b) $2\sqrt{2}$ (c) $3\sqrt{6}$ (d) $3\sqrt{2}$
15	$] 3 , 5[ \cup \{3 , 5\} = \dots\dots\dots$ (a) $] 3 , 5[$ (b) $\{3 , 5\}$ (c) $[3 , 5]$ (d) $[3 , 5[$
16	A (2 , 5) , B (3 , 7) , then the slope of $\overrightarrow{AB} = \dots\dots\dots$ (a) $\frac{1}{2}$ (b) 2 (c) -2 (d) 5
17	The mean of the values 2 , 8 , 6 , 4 is $\dots\dots\dots$ (a) 3 (b) 4 (c) 5 (d) 6
18	If the order of the median of a set of values is the fifth , then the number of these values is $\dots\dots\dots$ (a) 6 (b) 10 (c) 11 (d) 9
19	If $x = 3 + \sqrt{3}$ and $y = 3 - \sqrt{3}$ , then $x - y = \dots\dots\dots$ (a) $6\sqrt{3}$ (b) -6 (c) $\sqrt{6}$ (d) $2\sqrt{3}$
20	The mode for the values 3 , 5 , 3 , 4 , 3 is $\dots\dots\dots$ (a) 3 (b) 4 (c) 5 (d) 12





- 21 The S.S. of the inequality :  $-x > 3$  in  $\mathbb{R}$  is .....  
 (a)  $\{-3\}$  (b)  $]3, \infty[$  (c)  $]-\infty, 3[$  (d)  $]-\infty, -3[$
- 22 If  $(a, 4)$  satisfies the relation  $x - y = -1$ , then the value of  $a$  is .....  
 (a)  $\sqrt{3}$  (b) 5 (c) 27 (d) 3
- 23  $[2, 7] - ]2, 7[ = \dots\dots\dots$   
 (a)  $]2, 7]$  (b)  $[2, 7[$  (c)  $\{2, 7\}$  (d)  $[2, \infty[$
- 24 If the radius length of a sphere is 6 cm., then its volume is .....  $\pi \text{ cm}^3$ .  
 (a) 6 (b) 36 (c) 72 (d) 288
- 25 The order of the median of 5, 2, 3, 9, 7, 1, 6 is .....  
 (a) 9 (b) 5 (c) 4 (d) 2
- 26 Which of the following ordered pairs satisfies the relation  $2x + y = 5$ ?  
 (a)  $(-1, 3)$  (b)  $(1, 3)$  (c)  $(3, 1)$  (d)  $(2, 2)$
- 27 If  $x < \sqrt{15} < x + 1$ ,  $x \in \mathbb{Z}$ , then  $x = \dots\dots\dots$   
 (a) 3 (b) 4 (c) 5 (d)  $\emptyset$
- 28 The ordered pair that satisfies the relation :  $3x - y = 1$  is .....  
 (a)  $(0, 5)$  (b)  $(-1, 2)$  (c)  $(1, 2)$  (d)  $(2, 1)$
- 29 The cube whose volume is  $8 \text{ cm}^3$ , the area of one of its faces is .....  $\text{cm}^2$ .  
 (a) 4 (b) 8 (c) 16 (d) 64
- 30 The S.S. in  $\mathbb{R}$  for the equation :  $x^3 + 8 = 0$  is .....  
 (a)  $\{4\}$  (b)  $\{2\}$  (c)  $\emptyset$  (d)  $\{-2\}$
- 31 If  $(2k, k)$  satisfies the relation  $2x + y = 15$ , then  $k = \dots\dots\dots$   
 (a) 1 (b) 2 (c) 3 (d) 4





- 32 The conjugate of the number  $2 - \sqrt{3}$  is .....
- (a)  $\sqrt{3} - 2$  (b)  $2 - \sqrt{3}$  (c)  $\sqrt{2} - 3$  (d)  $2 + \sqrt{3}$

- 33  $[0, 5] \cup [3, 8[ = \dots\dots\dots$
- (a)  $]3, 5]$  (b)  $[3, 5]$  (c)  $[0, 8]$  (d)  $[0, 8[$

- 34 **2 Complete :**
- $[1, 5] \cap ]-2, 3] = \dots\dots\dots$

- 35  $\sqrt[3]{4} = \sqrt[3]{\dots\dots\dots}$

- 36 The slope of the straight line which passes through A (2, -5), B (3, -2) is .....

- 37 The point (3, ..... ) satisfies  $2x + y = 10$

- 38 A cube whose volume is  $8 \text{ cm}^3$ , then the sum of lengths of all its edges is .....

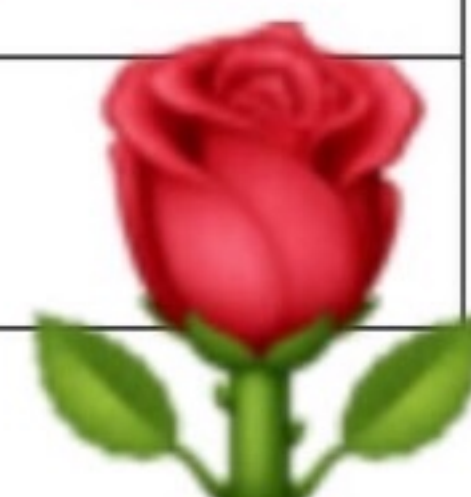
- 39 If the lower boundary of a set is 10 and the upper boundary is  $x$  and its centre is 15, then  $x = \dots\dots\dots$

- 40 If the volume of a sphere =  $36\pi \text{ cm}^3$ , then its diameter length = ..... cm.

- 41 The slope of any line parallel to y-axis is .....

- 42 The median of the values 3, 7, 6, 9, 2 is .....

- 43 The S.S. of the equation :  $(x^2 + 3)(x^3 + 1) = 0$  is ..... ,  $x \in \mathbb{R}$







44

If  $x = \frac{3}{\sqrt{5}-\sqrt{2}}$  and  $y = \sqrt{5}-\sqrt{2}$

, prove that :  $x$  and  $y$  are two conjugate numbers.

45

Prove that :  $\sqrt[3]{128} + \sqrt[3]{16} - 2\sqrt[3]{54} = 0$

46

Find the value of :  $\sqrt{18} + \sqrt[3]{54} - 3\sqrt{2} - \frac{1}{2}\sqrt[3]{16}$

47

Find the S.S. of the inequality :  $-2 < 3x + 7 \leq 10$  in  $\mathbb{R}$  , then represent the interval of solution on the number line.

48

Find the S.S. for each of the following inequalities in  $\mathbb{R}$  , in the form of an interval , then represent the S.S. on the number line :

①  $5x - 3 < 2x + 9$

②  $1 \leq 3 - 2x < 5$

49

Reduce to the simplest form :  $2\sqrt{18} + \sqrt{50} + \frac{1}{3}\sqrt{162}$

50

Find the solution set in  $\mathbb{R}$  for :  $3x - 4 \leq 5$  and represent it on the number line.

51

If  $x = \frac{2}{\sqrt{7}-\sqrt{5}}$  ,  $y = \sqrt{7}-\sqrt{5}$  , find :  $(x+y)^2$

52

The volume of a sphere is  $562.5 \pi \text{ cm}^3$  , find its surface area.

53

If  $A = ]-\infty, 3[$  ,  $B = [-1, 5]$

, find the following using the number line : ①  $A \cap B$

②  $A - B$

100





54

Find in the simplest form :  $2\sqrt{18} + \sqrt{50} - \sqrt{162}$

55

Represent graphically the relation :  $y = 2 - x$

56

If  $X = ]-\infty, 1[$  and  $Y = [-2, 4[$ , find each of the following as an interval using the number line :

①  $X \cup Y$

②  $X \cap Y$

③  $X - Y$

④  $\bar{X}$

57

If  $x = \sqrt{7} + \sqrt{5}$ ,  $y = \frac{2}{x}$ , find the value of  $\frac{x+y}{xy}$  in the simplest form.

58

Find in  $\mathbb{R}$  the S.S. of the following inequality :  $-1 \leq 3 - 2x < 5$ , then represent the interval of solution on the number line.

59

Find the solution set in  $\mathbb{R}$  :  $8x^3 + 7 = 8$

60

If  $x = \sqrt{6} + \sqrt{5}$ ,  $y = \frac{1}{\sqrt{6} + \sqrt{5}}$  :

① Prove that :  $x, y$  are two conjugate numbers.

② Find : the numerical value of  $(x - y)^2$

61

Graph the relation  $y + 3x = 6$  and find the slope of the straight line.

62

Find the volume of the right circular cylinder whose diameter length of its base is 10 cm. and its height is 7 cm.  $(\pi = \frac{22}{7})$





- 63 A right circular cylinder whose height is 8 cm. and its volume is  $72\pi \text{ cm}^3$ . Find the length of the radius of its base.

- 64 Find the solution set in  $\mathbb{R}$  :

$$3 - 2x \leq 7$$

$$x - 1 < 3x - 1 \leq x + 1$$

- 65 The volume of a cylinder is  $1540 \text{ cm}^3$ . ,if its height is 10 cm. ,find its diameter length. ( $\pi = \frac{22}{7}$ )

- 66 Prove that :  
The points A , B and C are collinear where A (1 , 1) , B (- 5 , - 11) and C (4 , 7)

- 67 Represent graphically the relation  $y = x + 2$  and if  $(-4 , a)$  satisfies the relation , find the value of a

- 68 Find the arithmetic mean of the following distribution :

Sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	4	5	6	3	2	20

- 69 Find the solution set of each of the following equations in  $\mathbb{Q}$  :

1  $2x^3 - 1 = 53$

2  $(5x - 3)^3 = 8$

- 70 Find the mode of the following distribution :

The Set	2 -	6 -	10 -	14 -	18 -	22 -	26 -	Total
Frequency	3	5	8	10	7	5	2	40



حمل الآن

مجاناً وحصرياً

# المراجعة رقم (3)

## الترم الاول



# FIRST: ALGEBRA

(1)	$\sqrt{16} + \sqrt[3]{-64} = \dots\dots\dots$	"0"
(2)	If $\sqrt[3]{x} = -\sqrt{25}$ , then $x = \dots\dots\dots$	"-125"
(3)	$\sqrt[3]{27} = \sqrt{\dots\dots\dots}$	"9"
(4)	If $x^3 = 64$ , then $\sqrt{x} = \dots\dots\dots$	"2"
(5)	If $\sqrt[3]{x} = 4$ , then $\sqrt{x} = \dots\dots\dots$	"8"
(6)	If $ x  = 8$ , then $\sqrt[3]{x} = \dots\dots\dots$	"±2"
(7)	$\sqrt[3]{x^6} = \sqrt{\dots\dots\dots}$	"x <sup>4</sup> "
(8)	The S.S. of the equation: $x^2+4=0$ in Q is $\dots\dots\dots$	"∅"
(9)	If $\frac{x}{2} = \frac{4}{x^2}$ , then $x = \dots\dots\dots$	"2"
(10)	$\sqrt{25} - \sqrt[3]{-125} = \dots\dots\dots$	"10"
(11)	$\sqrt[3]{125} + \dots\dots\dots = 7$	"2"
(12)	If $\sqrt[3]{x+1} = 3$ , then $x = \dots\dots\dots$	"26"
(13)	If $\sqrt{x-2} = 4$ , then $\frac{1}{2}x = \dots\dots\dots$	"9"
(14)	If $x^2 - 1 = 15$ , then $x = \dots\dots\dots$	"±4"
(15)	If $\sqrt[3]{x} - 2 = 1$ , then $x = \dots\dots\dots$	"27"
(16)	The edge length of a cube whose volume 216 cm <sup>3</sup> is $\dots\dots\dots$ cm	"6"
(17)	The S.S. of the equation: $(x+3)^3 = 64$ in Q is $\dots\dots\dots$	"{1}"

(18)	The S.S. of the equation: $(2x + 1)^3 - 7 = 20$ in $\mathbb{Q}$ is .....	"{1}"
(19)	If $x = \sqrt[3]{512}$ , then $x =$ .....	"2"
(20)	Which of the following numbers is irrational: $\sqrt{\frac{1}{4}}$ , $\sqrt[3]{8}$ , $\sqrt{\frac{4}{9}}$ , $\sqrt{2}$	" $\sqrt{2}$ "
(21)	From the following numbers, the irrational number that lies between 2 and 3 is ..... $\sqrt{10}$ , $\sqrt{7}$ , 2.5, $\sqrt{2}$	" $\sqrt{2}$ "
(22)	If $x \in \mathbb{Z}^+$ and $x < \sqrt{26} < x + 1$ , then $x =$ .....	"5"
(23)	The area of square of side length $\sqrt{3}$ cm is ..... $\text{cm}^2$	"3"
(24)	The side length of a square whose area 10 $\text{cm}^2$ is a number $\in$ ..... (N, Z, Q, Q')	"Q"
(25)	If $x \in \mathbb{Z}^+$ and $x < \sqrt[3]{37} < x + 1$ , then $x =$ .....	"3"
(26)	If $x \in \mathbb{Z}^+$ and $x + 1 < \sqrt{10} < x + 2$ , then $x =$ .....	"2"
(27)	If $x \in \mathbb{Z}$ and $x < -\sqrt{17} < x + 1$ , then $x =$ .....	"-5"
(28)	If $x \in \mathbb{Z}$ and $x <  -\sqrt{35}  < x + 1$ , then $x =$ .....	"5"
(29)	The S.S. of the equation: $(x^3 + 5)(x^2 - 3) = 0$ in $\mathbb{Q}'$ is .....	" $\{\sqrt{3}, -\sqrt{3}, \sqrt[3]{-5}\}$ "
(30)	$\mathbb{Q} \cup \mathbb{Q}' =$ .....	"R"
(31)	$\mathbb{Q} \cap \mathbb{Q}' =$ .....	" $\emptyset$ "
(32)	$\mathbb{R} - \mathbb{Q} =$ .....	" $\mathbb{Q}'$ "
(33)	$\mathbb{R} - \mathbb{Q}' =$ .....	"Q"



(34)	$\mathbb{R}^+ \cap \mathbb{R}^- = \dots\dots\dots$	$\{\emptyset\}$
(35)	$\mathbb{R}^+ \cup \mathbb{R}^- = \dots\dots\dots$	$\mathbb{R}^*$
(36)	$\mathbb{R}^+ - \mathbb{R}^* = \dots\dots\dots$	$\{0\}$
(37)	The S.S. of $x^2 + 1 = 0$ in $\mathbb{R}$ is $\dots\dots\dots$	$\{\emptyset\}$
(38)	The S.S. of the equation: $(x^2+5)(x^2-3)=0$ in $\mathbb{R}$ is $\dots\dots\dots$	$\{\sqrt{3}, -\sqrt{3}\}$
(39)	The S.S. of the equation: $x(x^2-1)=0$ in $\mathbb{R}$ is $\dots\dots\dots$	$\{0, 1, -1\}$
(40)	The S.S. of the equation: $(x-2)^2 - 1 = 15$ in $\mathbb{R}$ is $\dots\dots\dots$	$\{6, -2\}$
(41)	The set of real number as an interval $\dots\dots\dots$	$]-\infty, \infty[$
(42)	The set of positive real number as an interval is $\dots\dots\dots$	$]0, \infty[$
(43)	The set of negative real number as an interval is $\dots\dots\dots$	$]-\infty, 0[$
(44)	The set of non-negative real number as an interval is $\dots\dots\dots$	$[0, \infty[$
(45)	$3 \dots\dots\dots [3, 5]$ ( $\in$ or $\notin$ )	$\in$
(46)	$[-1, 5] - ]-1, 5[ = \dots\dots\dots$	$\{-1, 5\}$
(47)	$[-1, 5] - \{-1, 5\} = \dots\dots\dots$	$] -1, 5[$
(48)	$[-1, 5] - [-1, 5] = \dots\dots\dots$	$\{\emptyset\}$
(49)	$[-1, 5] \cap ]-1, 5[ = \dots\dots\dots$	$] -1, 5[$
(50)	$\mathbb{R}^+ \cap [-1, 3] = \dots\dots\dots$	$]0, 3]$
(51)	$\{8, 9, 10\} - ]8, 10] = \dots\dots\dots$	$\{8\}$

(52)	$\mathbb{Z}^+ \cap [-1, 5] = \dots\dots\dots$	"{1, 2, 3, 4, 5}"
(53)	If $x \in [-1, 5]$ , then $x^2 \in \dots\dots\dots$	"[0, 25]"
(54)	The sum of all real numbers in the interval $[-80, 80]$ is $\dots\dots\dots$	"Zero"
(55)	If $X = [-1, 3]$ and $Y = [0, 5]$ , find using the number line: (a) $X \cap Y = \dots\dots\dots$ (b) $X \cup Y = \dots\dots\dots$ (c) $X - Y = \dots\dots\dots$	"[0, 3]" "[-1, 5]" "[-1, 0]"
(56)	If $X = ]-\infty, 3]$ and $Y = ]-1, 5]$ , find using the number line: (a) $X \cap Y = \dots\dots\dots$ (b) $X \cup Y = \dots\dots\dots$ (c) $X' = \dots\dots\dots$	"]-1, 3]" "]-\infty, 5]" "[3, \infty["
(57)	$\sqrt{7} + \sqrt{7} = \dots\dots\dots$	"[2\sqrt{7}]"
(58)	$(2^3\sqrt{5})^3 = \dots\dots\dots$	"40"
(59)	The additive inverse of $\frac{6}{\sqrt{3}}$ is $\dots\dots\dots$	"[- 2\sqrt{3}]"
(60)	The additive inverse of $\sqrt{3} - \sqrt{7}$ is $\dots\dots\dots$	"[\sqrt{7} - \sqrt{3}]"
(61)	The multiplicative inverse of $\frac{\sqrt{2}}{6}$ is $\dots\dots\dots$	"[3\sqrt{2}]"
(62)	If $X = \sqrt{2} + 5$ and $Y = \sqrt{2} - 5$ , then $(X + Y)^2 = \dots\dots\dots$	"8"
(63)	If $X^2 = (2\sqrt{3} - \sqrt{7})(2\sqrt{3} + \sqrt{7})$ , then $X = \dots\dots\dots$	" $\pm\sqrt{5}$ "
(64)	If $X = \sqrt{5} + \sqrt{3}$ and $Y = \sqrt{5} - \sqrt{3}$ , then $XY = \dots\dots\dots$	"2"
(65)	The conjugate of $\sqrt{2} - \sqrt{7}$ is $\dots\dots\dots$	" $\sqrt{2} + \sqrt{7}$ "

(66)	If $x = \frac{\sqrt{6}}{\sqrt{2}}$ , then $x^{-1} = \dots\dots$	" $\frac{\sqrt{3}}{3}$ "
(67)	$\sqrt{5}, 2\sqrt{5}, 3\sqrt{5}, 4\sqrt{5}, \dots\dots$ (in the same pattern)	" $5\sqrt{5}$ "
(68)	If $2\sqrt{27} - 2\sqrt{48} = x\sqrt{3}$ , then $x = \dots\dots$	"-2"
(69)	If $a^x = 6$ and $a^{-y} = \sqrt{3}$ , then $a^{x+y} = \dots\dots$	" $2\sqrt{3}$ "
(70)	If $\sqrt{x} = 3 + \sqrt{2}$ , then $x = \dots\dots$	" $11 + 6\sqrt{2}$ "
(71)	Half of $\sqrt{28}$ is $\dots\dots$	" $\sqrt{7}$ "
(72)	Simplify: $2\sqrt{5} + 4\sqrt{20} + 5\sqrt{\frac{1}{5}}$	" $9\sqrt{5}$ "
(73)	If $x = \sqrt{5} + \sqrt{3}$ and $y = \sqrt{5} - \sqrt{3}$ , find the value of $x^2 + 2xy + y^2$ .	"20"
(74)	Simplify: $\sqrt{50} - \sqrt{18} + \sqrt{32}$	" $6\sqrt{2}$ "
(75)	If $x = \sqrt{5} + 2$ and $y = \sqrt{5} - 2$ , find the value of $\frac{x+y}{xy}$ .	" $2\sqrt{5}$ "
(76)	Simplify: $2\sqrt{18} - \sqrt{50} + \frac{1}{3}\sqrt{162}$	" $\sqrt{2}$ "
(77)	If $x = \sqrt{5} + \sqrt{2}$ and $xy = 3$ , find the value of $x^2 - 2xy + y^2$	"8"
(78)	If $x = \frac{4}{\sqrt{7} - \sqrt{3}}$ and $y = \sqrt{7} - \sqrt{3}$ , (a) Prove that x and y are conjugate. (b) Find the value of xy and $(x+y)^2$ .	" $x = \sqrt{7} + \sqrt{3}$ " "4" "28"
(79)	If $x = \sqrt{5} + \sqrt{3}$ and $2y^{-1} = \sqrt{5} + \sqrt{3}$ , find the value of $x^2 - y^2$ .	" $4\sqrt{15}$ "
(80)	If $x^2 - y^2 = 60$ and $x+y=5\sqrt{6}$ , then $x-y = \dots\dots$	" $2\sqrt{6}$ "

(81)	The area of rectangle whose dimensions are $(\sqrt{3} + 1)\text{cm}$ and $(\sqrt{3} - 1)\text{cm}$ is ..... $\text{cm}^2$ .	"2"
(82)	Simplify: $\sqrt{8} + \sqrt{75} - \frac{1}{2}\sqrt{12} - 4\sqrt{\frac{1}{2}}$	" $4\sqrt{3}$ "
(83)	If $y = \sqrt{2 + \sqrt{3}}$ , then $y^4 - 2y^2 + 1 = \dots\dots\dots$	" $4 + 2\sqrt{3}$ "
(84)	The nearest integer to $\sqrt[3]{-28}$ is .....	"-3"
(85)	$\pi \in \dots\dots\dots (\mathbb{Q}, \mathbb{Q}', \mathbb{Z}, \mathbb{N})$	"Q"
(86)	If $2x = \sqrt{12}$ , then $x = \dots\dots\dots$	" $\sqrt{3}$ "
(87)	The slope of vertical line is .....	"undefined"
(88)	The slope of horizontal line is .....	"0"
(89)	The volume of the cuboid whose dimensions are $\sqrt{2}\text{ cm}$ , $\sqrt{3}\text{ cm}$ and $\sqrt{6}\text{ cm}$ is ..... $\text{cm}^3$ .	"6"
(90)	If $(k, 3)$ satisfies the relation $x + y = 1$ , then $k = \dots\dots\dots$	"-2"
(91)	If $(3k, 2k)$ lies on the straight line $x - 3y = 9$ , then $k = \dots\dots\dots$	"-3"
(92)	The volume of a cube is $27\text{cm}^3$ , then the area of its face = ..... $\text{cm}^2$ .	"9"
(93)	The relation $8x + 3y = 24$ represented by a straight line intersects y-axis at the point .....	"(0, 8)"
(94)	The point that satisfies the relation $x + 2y = 5$ is $(1, \dots\dots\dots)$	"2"
(95)	The slope of the straight line which perpendicular to y-axis is .....	"0"
(96)	The slope of the straight line which perpendicular to x-axis is .....	"undefined"

(97)	If A(3,2) and B(x,1) and the slope of $\overleftrightarrow{AB} = 1$ , then $x = \dots\dots\dots$	"2"
(98)	If the volume of a sphere is $\frac{9}{16}\pi\text{ cm}^3$ , then the length of its diameter = $\dots\dots\dots$ cm	" $\frac{3}{2}$ "
(99)	If (2,-5) satisfies the relation $3x-y+c=0$ , then $c = \dots\dots\dots$	"-11"
(100)	The cube whose volume $8\text{ cm}^3$ , the sum of all its edges = $\dots\dots\dots$ cm.	"24"
(101)	A cube of volume $1\text{ cm}^3$ , its lateral area = $\dots\text{ cm}^2$	"4"
(102)	The slope of straight line which passes through the two points (3,2) and (4,2) is $\dots\dots\dots$	"0"
(103)	$\sqrt[3]{2} + \sqrt[3]{2} = \sqrt[3]{\dots}$	"16"
(104)	The volume of a sphere of diameter length 6cm is $\dots\dots\dots \pi\text{ cm}^3$ .	"36"
(105)	The S.S. of the inequality: $\sqrt{5}x \leq 5$ in R is $\dots\dots\dots$	" $]-\infty, \sqrt{5}]$ "
(106)	The S.S. of the inequality: $-2x \leq 0$ in R is $\dots\dots\dots$	" $[0, \infty[$ "
(107)	If $1 \leq x \leq 4$ , then $2x - 1 \in \dots\dots\dots$	" $[1, 7]$ "
(108)	The intersection point of the two straight lines $x=0$ and $y=0$ is $\dots\dots\dots$	"(0,0)"
(109)	The intersection point of the two straight lines $x-1=0$ and $y+4=0$ is $\dots\dots\dots$	"(1,-4)"
(110)	A sum of all edge lengths of a cube is 48 cm, then the area of its face = $\dots\dots\dots \text{ cm}^2$ .	"16"
(111)	In the relation $y = 3x + 4$ , if $x=1$ , then $y = \dots\dots\dots$	"7"
(112)	If the area of a sphere is $4\pi\text{ cm}^2$ , then its radius length = $\dots\dots\dots$ cm.	"1"

(113)	The S.S. of the equation: $\sqrt{3}x - 2 = 1$ in R is .....	" $\{\sqrt{3}\}$ "
(114)	Simplify: $\frac{1}{2}\sqrt{24} - 3\sqrt{\frac{2}{3}}$	"0"
(115)	The volume of a cube is $5\sqrt{5}\text{cm}^3$ , its lateral area is ..... $\text{cm}^2$ .	"20"
(116)	The lateral area of the cylinder = .....	" $2\pi rh$ "
(117)	The total area of the cylinder = .....	" $2\pi r(h+r)$ "
(118)	The mean of the values: 3, 5 and 7 is .....	"5"
(119)	If the order of median of values is the fourth, then the number of these values is .....	"7"
(120)	If the mode of the values: 4, 11, 8 and $2x$ is 4, then $x =$ .....	"2"
(121)	If the mean of 6 values is 5, then the sum of these values = .....	"30"
(122)	If the mode of the values: 5, 7, 8 and $x^3$ is 8, then $3x =$ .....	"6"
(123)	If the mode of the values: 5, 9, 5, $x-2$ and 9 is 9, then $x =$ .....	"11"
(124)	If the intersection point of the ascending and descending cumulative frequency curves is (31, 50), then the sum of the frequencies = ..... and the mode is .....	"62" "50"
(125)	The median of values: 34, 23, 25, 40, 21, 4 is .....	"24"
(126)	The center of the set whose upper limit 8 and its lower limit 4 is .....	"6"
(127)	If the lower limit of a set is 4 and its center is 6, then its upper limit is .....	"8"

(128)	If the mean of values: 18,23,29,2k-1,k is 18, then k = .....	"7"
(129)	Mode, mean and median are called ..... measurements.	"central tendency"
(130)	The mean of frequency distribution = .....	$\frac{\sum x \times f}{\sum f}$
(131)	If the order of median of a frequency distribution is 30, then the sum of these frequencies is .....	"60"
(132)	If the mean of values: 4,2,x+1 is 4, then x=.....	"5"

### Essay Problems

(133)	If $2x+2y=10$ , then the arithmetic mean of x and y is .....	"2.5"
(134)	If the order of median of values is 5 <sup>th</sup> and 6 <sup>th</sup> , then the number of these values is .....	"10"
(135)	Simplify: $2\sqrt{5}(\sqrt{5}-2) + \sqrt{20} - 10\sqrt{\frac{1}{5}}$	" $10 - 4\sqrt{5}$ "
(136)	Simplify: $\sqrt[3]{128} + \sqrt[3]{16} - 2\sqrt[3]{54}$	"0"
(137)	Simplify: $\sqrt{125} - \sqrt[3]{2} + \frac{1}{2}\sqrt[3]{16} + \sqrt{20}$	" $7\sqrt{5}$ "
(138)	Find the S.S. of the inequality: $2x + 3 \leq 1$ in R, and represent it on the number line.	" $]-\infty, -1]$ "
(139)	Find the S.S. of the inequality: $1 < 2x + 3 \leq 9$ in R, and represent it on the number line.	" $] -1, 3]$ "
(140)	Find the S.S. of the inequality: $9 - 2x < 7$ in R, and represent it on the number line.	" $]1, \infty[$ "
(141)	Find the S.S. of the inequality: $7x+3 < 6x+5$ in R, and represent it on the number line.	" $]-\infty, 2[$ "



(142)	Find the S.S. of the inequality: $2x+3 \leq 5x+3 \leq 2x+9$ in $\mathbb{R}$ , and represent it on the number line.	"[0,2]"
(143)	Find the S.S. of the inequality: $16 \geq 3x+7 \geq -2$ in $\mathbb{R}$ , and represent it on the number line.	"[-3,3]"
(144)	A right circular cylinder, its height equal to its radius length, its volume is $216\pi \text{ cm}^3$ . Find its height.	"6 cm"
(145)	A sphere of volume $36\pi \text{ cm}^3$ . Find its surface area in the term of $\pi$ .	" $36\pi \text{ cm}^2$ "
(146)	A metallic sphere its diameter is 6 cm, was melted and converted to a right circular cylinder the radius length of its base is 3 cm. Find the height of the cylinder.	"4 cm"
(147)	A right circular cylinder, the radius length of its base is 5 cm and its height is 7 cm. Find the volume of the cylinder and its lateral area.	" $550 \text{ cm}^3$ " " $220 \text{ cm}^2$ "
(148)	A right circular cylinder of volume $54\pi \text{ cm}^3$ , and its height equals to the diameter length of its base. Find its lateral area in term of $\pi$ .	" $36\pi \text{ cm}^2$ "
(149)	Find three ordered pairs satisfies the relation: $x + y = 5$ and represent it graphically.	(0,5) (5,0) (1,4)
(150)	If the slope of the straight line which passes through the points (3,-1) and (7,k) is $\frac{3}{4}$ , find the value of k.	"2"
(151)	If the straight line that passes through the points (3,4) and (2,k) is parallel to x-axis, then find the value of k.	"4"
(152)	Find the slope of $\overleftrightarrow{AB}$ , where A(-1,3) and B(2,5). Is C(8,1) lies on $\overleftrightarrow{AB}$ ?	" $\frac{2}{3}$ "



(153)	If $(2k,k)$ satisfies the relation $x+y=15$ , find the value of $k$ .															
(154)	Prove that $A(4,-3)$ , $B(-6,7)$ and $C(5,-4)$ are collinear.															
(155)	If $(k,3)$ lies on the stright line that represents the relation $kx+y=12$ , find the value of $k$ .	"±3"														
(156)	If $(a,2a)$ satisfies the relation $y=3x-1$ , find the value of $a$ .	"1"														
(157)	If $(-3,2)$ satisfies the relation $3x+by=1$ , find the value of $\sqrt{b+4}$ .	"3"														
(158)	If $A(1,1)$ , $B(2,2)$ and $C(3,k)$ are collinear, find the value of $k$ .	"3"														
(159)	Represent graphically the relation $x-4y=4$															
(160)	Represent graphically the relation $y=2x+1$															
(161)	<div>From the following frequency distribution:<table><tr><td>Sets</td><td>5-</td><td>15-</td><td>25-</td><td>35-</td><td>45-</td><td>Total</td></tr><tr><td>frequency</td><td>4</td><td>5</td><td>k</td><td>3</td><td>2</td><td>20</td></tr></table><div>(a) Find the value of <math>k</math>.</div><div>(b) Calculate the arithmetic mean.</div></div>	Sets	5-	15-	25-	35-	45-	Total	frequency	4	5	k	3	2	20	"6" "27"
Sets	5-	15-	25-	35-	45-	Total										
frequency	4	5	k	3	2	20										
(162)	<div>A tank of water is filled with water completely. A tap is opened below the tank to empty it ,the opposite graph represents the relation between the time (<math>t</math>) in minutes and the amount of water remained in the tank (<math>v</math>) in litres :</div> <div><div>1</div> What is the greatest capacity of the tank ?</div> <div><div>2</div> What is the time needed to empty the tank?</div> <div><div>3</div> What is the amount remained in the tank after 20 minutes ?</div> <div><div>4</div> What is the rate of emptying the tank ?</div>	<div><div>(Remaind water in litres)</div><div><math>v</math></div><div></div><div><div>(Time in minutes)</div><div><math>t</math></div></div></div>														

حمل الآن

مجانا وحصريا

# المراجعة رقم (4)

## الترم الاول





## 2nd prep

## FINAL REVISION

### AL GEBRA

#### (1) Complete each of the following:

- (1) The S.S of the equation:  $(x^2 + 3)(x^3 + 1) = 0$  is .....,  $x \in \mathbb{R}$
- (2) If the lower boundary of a set is 10 and the upper boundary is  $x$  and its centre is 15, then  $x =$  .....
- (3)  $] - 2, 2] \cup \{-2, 0\} =$  .....
- (4) The additive inverse of the number:  $-\sqrt{3} - \sqrt{5}$  is .....
- (5) The conjugate of the number  $\frac{2\sqrt{5}}{\sqrt{3} - \sqrt{5}}$  is .....
- (6) If the volume of a sphere is  $\frac{9}{2}\pi \text{ cm}^3$ , then its diameter length is ..... cm
- (7) The mode for the numbers: 3, 5, 3, 4, 3 is .....
- (8) The solution set of the equation:  $x^2 + 9 = 0$  in  $\mathbb{R}$  is .....
- (9) The median of the values: 2, 3, 5, 7, 9 is .....
- (10)  $|\sqrt[3]{27}| = \sqrt{\quad}$  .....
- (11) The relation  $3x + 7y = 14$  is represented by a straight line intersects the y-axis at the point .....
- (12) The centre of the set whose lower boundary is 2 and its upper boundary is 6, is .....
- (13)  $[3, 7] - \{3, 7\} =$  .....
- (14) The S.S of the inequality:  $-x > 3$  in  $\mathbb{R}$  is .....



- (15) The straight line representing  $x - y = 2$  cuts the  $x$ -axis  
at  $x = \dots\dots\dots$
- (16) If the mode of the values 16, 8,  $x + 1$ , 8 and 16 is 8, then  $x = \dots\dots\dots$
- (17) If  $(a, 3)$  satisfies the relation  $2x - y = 7$ , then  $a = \dots\dots\dots$
- (18) The point of intersection of the ascending and descending cumulative frequency curves determines  $\dots\dots\dots$  on the set-axis
- (19) The volume of a sphere whose diameter length is 6 cm.  
equals  $\dots\dots\dots \pi \text{ cm}^3$
- (20) The slope of the straight line parallel to  $x$ -axis is  $\dots\dots\dots$
- (21) A cube of edge length 3 cm, then its volume =  $\dots\dots\dots \text{cm}^3$
- (22) If the lowest limit of a set is 8 and its upper limit is 14, then its centre is  $\dots\dots\dots$
- (23) The slope of the straight line passing through  $(2, 3)$  and  $(5, -1)$   
is  $\dots\dots\dots$
- (24) If  $x < \sqrt{19} < x + 1, x \in \mathbb{Z}$ , then  $x = \dots\dots\dots$
- (25) If the slope of  $\overset{\longleftrightarrow}{AB}$  equals the slope of  $\overset{\longleftrightarrow}{BC}$ , then A, B and C are  
 $\dots\dots\dots$
- (26) If  $x \in [-2, 3]$ , then  $x^2 \in [\dots\dots\dots, \dots\dots\dots]$
- (27) If the order of the median of a set of values is fourth, then the number of these values is  $\dots\dots\dots$
- (28) If  $(-1, 5)$  satisfies the relation  $3x + ky = 7$ , then  $k = \dots\dots\dots$
- (29)  $[2, 6] - \{2, 6\} = \dots\dots\dots$
- (30) The lateral area of a cube whose volume is  $216 \text{ cm}^3$ . equals  $\dots\dots\dots$
- (31)  $(\sqrt{3} + \sqrt{7})^2 = \dots\dots\dots$  (in the simplest form)



(32) If  $2 < x < 5$ , then  $3x - 1 \in \dots\dots\dots$

(33) The multiplicative inverse of the number  $\frac{3}{\sqrt{3}}$  is  $\frac{\dots\dots\dots}{\sqrt{3}}$

(34) If  $A = (3, 2)$ ,  $B = (3, -1)$ , then the slope of the straight line  $\overleftrightarrow{AB}$  is  $\dots\dots\dots$

(35) The perimeter of the rectangle whose dimensions are  $(3 - \sqrt{5})$  cm. and  $(3 + \sqrt{5})$  cm. equals  $\dots\dots\dots$

(36) If  $\frac{1}{x} = \sqrt{5} - 2$ , then the value of  $x$  in the simplest form is  $\dots\dots\dots$

(37)  $2x^2y \times \dots\dots\dots = 12x^3y$

(38)  $(2x - 3)(3x + 5) = 6x^2 + \dots\dots\dots$

(39) The square whose area  $10 \text{ cm}^2$ . Its side length is  $\dots\dots\dots$  cm

(40)  $\sqrt[3]{x^6} = \sqrt{\dots\dots\dots}$

(41)  $[-2, 2] \cup \{-2, 0\} = \dots\dots\dots$

(42) The algebraic term  $5x^2$  is of  $\dots\dots\dots$  degree

(43) If the ages of 5 students are 13, 15, 16, 14 and 17 years old, then the arithmetic mean of their ages equals  $\dots\dots\dots$  years

(44) The slope of any line parallel to x-axis is  $\dots\dots\dots$

(45) The irrational number lying between  $-2$  and  $-1$  is  $\dots\dots\dots$

**(2) Choose the correct answer:**

(1). If the radius length of a sphere is 6 cm, then its volume is  $\dots\dots\dots$

(a)  $6\pi \text{ cm}^3$  (b)  $36\pi \text{ cm}^3$  (c)  $72\pi \text{ cm}^3$  (d)  $288\pi \text{ cm}^3$



2) The arithmetic mean of the values: 27, 8, 16, 24, 6, k, is 14 then k = ....

- (a) 3                      (b) 6                      (c) 27                      (d) 84

(3) A right circular cylinder the radius length of its base is  $r$  cm. and its height equals its diameter length, then its volume = .....  $\text{cm}^3$

- (a)  $\pi r^3$                       (b)  $\pi r^2$                       (c)  $2\pi r^3$                       (d)  $2r^3$

(4) The additive inverse of the number  $-\sqrt{5}$  is .....

- (a)  $\sqrt{5}$                       (b) 5                      (c)  $\sqrt{2}$                       (d) -5

(5) The simplest form of the expression:  $(\sqrt{3} - \sqrt{2})(\sqrt{3} + \sqrt{2})$  is .....

- (a)  $\sqrt{3}$                       (b) 1                      (c)  $\sqrt{2}$                       (d)  $2\sqrt{3}$

(6) If  $x > 6$ , then  $-x$  .....

- (a)  $< 6$                       (b)  $> 6$                       (c)  $< -6$                       (d)  $> -6$

(7) The mode of the value  $\frac{1}{7}, \frac{1}{3}, \frac{1}{7}, \frac{1}{4}$  is  $x$ , then  $\frac{1}{x} = \dots\dots\dots$

- (a) 7                      (b)  $\frac{1}{3}$                       (c)  $\frac{1}{7}$                       (d) 4

(8) The conjugate number of the number:  $1 - \frac{11}{\sqrt{11}}$  is  $\sqrt{11} + \dots\dots\dots$

- (a) 11                      (b)  $\sqrt{11}$                       (c) 1                      (d) 10

(9) If the order pair  $(-1, 3)$  satisfies the relation  $3x - y = c$ , then  $c = \dots$

- (a) 7                      (b) -7                      (c) 6                      (d) -6

(10) The cube whose volume is  $8 \text{ cm}^3$ , the area of one face = .....  $\text{cm}^2$

- (a) 4                      (b) 8                      (c) 16                      (d) 64



(11)  $R^+ - [-2, 3[ = \dots\dots\dots$

- (a)  $]0, 3[$  (b)  $[3, \infty[$  (c)  $]3, \infty[$  (d)  $] - \infty, -2[$

(12) If  $x = \sqrt{3} + 2$  and  $y = \sqrt{3} - 2$ , then  $(x \cdot y, x + y) \dots\dots\dots$

- (a)  $(1, 2\sqrt{3})$  (b)  $(-1, 2\sqrt{3})$  (c)  $(5, 2\sqrt{3})$  (d)  $(5, 9)$

(13) If the median of the values:  $k + 1, k + 2, k + 5, k + 4, k + 3$ , where  $k$  is a positive number is 13, then  $k = \dots\dots\dots$

- (a) 2 (b) 5 (c) 10 (d) 13

(14)  $\mathbb{Q} \cap \mathbb{Q}' = \dots\dots\dots$

- (a)  $\mathbb{R}$  (b)  $\mathbb{R}_+$  (c)  $\mathbb{R}_-$  (d)  $\emptyset$

(15) If  $5x = 35$ , then  $2x + 1 = \dots\dots\dots$

- (a) 7 (b) 15 (c) 8 (d) 71

(16)  $(2^3\sqrt{2})^3 = \dots\dots\dots$

- (a) 4 (b) 8 (c) 16 (d) 40

(17) The irrational number which lies between 3 and 4 is  $\dots\dots\dots$

- (a)  $\sqrt{13}$  (b)  $\frac{1}{8}$  (c) 3.5 (d)  $\sqrt{20}$

(18) If the slope of straight line  $ax + by + 1 = 0$  is undefined, then  $\dots\dots\dots$

- (a)  $a = b$  (b)  $a = \text{zero}$  (c)  $b = \text{zero}$  (d)  $a = -b$

(19)  $\frac{1}{3} = \dots\dots\dots$

- (a) 0.3 (b) 30 (c) 3 (d) 0.03

(20) If the lower boundary of a set is 10 and the upper boundary is  $x$  and the centre is 15, then  $x = \dots\dots\dots$



(a) 10

(b) 15

(c) 20

(d) 30

**(3) Answer the questions:**

(1) Find the value of:  $\sqrt{18} + \sqrt[3]{54} - 3\sqrt{2} - \frac{1}{2}\sqrt[3]{16}$

(2) Find the S.S of the inequality:  $-2 < 3x + 7 \leq 10$  in  $\mathbb{R}$ , then represent the interval of solution on the number line.

(1) Find in the simplest form:  $2\sqrt{18} + \sqrt{50} + \frac{1}{3}\sqrt{162}$

(2) If  $x = \frac{5\sqrt{2} + 3\sqrt{5}}{\sqrt{5}}$ ,  $y = \frac{2\sqrt{5} - 3\sqrt{2}}{\sqrt{2}}$ , then the value of  $x^2 + y^2$

and prove that:  $\frac{x^2 + y^2}{xy} = 38$

(3) Prove that  $\sqrt{5}$  lies between 2.2 and 2.3

(4) Find the total area of a right circular cylinder of volume  $72\pi \text{ cm}^3$  and height 8 cm.

(5) If  $X = ] -\infty, 2]$  and  $Y = [ -1, 5 [$ , Find using the number line:

(1)  $X \cap Y$  (2)  $X \cup Y$  (3)  $X - Y$  (4)  $X'$



(6) Prove that the points A (−1, 6) , B (1 , 2) and C (3 , −2 ) are collinear points.

(7) Find the S.S in  $\mathbb{R}$  for:  $1 \leq 3 - 2x < 5$  , then represent the S.S. on the number line.

(8) The volume of a circular right cylinder is  $924 \text{ cm}^3$  . and its height is 6 cm. Find its lateral area

(9) If the volume of a sphere is  $288 \pi \text{ cm}^3$  , Find its area

(10) If  $x = \sqrt{5} + \sqrt{3}$  and  $y = \frac{2}{\sqrt{5} + \sqrt{3}}$  , Find:  $(x + y)^2$

(11) Find in the form of an interval:  $x + 1 \leq 2x - 3 < x + 4$  ,  $x \in \mathbb{R}$

(12) If  $a = \sqrt{2} + 1$  and  $ab = 1$ , find the value of:  $(a - b)^2$

(13) A right circular cylinder, its volume is  $40 \pi \text{ cm}^3$ . And its height equals 10 cm. Find the radius length of its base.

(14) Find three orders pairs that satisfy the relation:  $x + 2y = 6$ , then represent it graphically.



(15) Represent graphically the relation:  $y + 2x = 5$

(16) Find the value of:  $\sqrt{8} - \sqrt{50} + \sqrt{32} - 2\sqrt{\frac{1}{2}}$

(17) The volume of a sphere is  $36\pi \text{ cm}^3$ . Find the length of its diameter.

(18) Find the arithmetic mean of the following frequency distribution:

Sets	0-	4-	8-	12-	16-	Total
Frequency	4	6	12	10	8	40

(19) The following table shows a frequency distribution:

Sets	20-	30-	40-	50-	60-	70-	Total
Frequency	10	k	22	25	20	8	100

Find:

(1) The value of k

(2) The median using the two ascending and descending cumulative curves.



**(3) The mode using the histogram.**

Best Wishes

MR. Khaled Mahmoud

حمل الآن

مجاناً وحصرياً

# المراجعة رقم (5)

## الترم الاول





**[1] Complete each of the following :**

- 1) The conjugate of the number  $\frac{2\sqrt{5} - 3\sqrt{2}}{\sqrt{2}}$  is .....
- 2)  $[ 3 , 4 ] - \{ 3 , 5 \} = \dots\dots\dots$
- 3)  $\sqrt{64} - \sqrt[3]{64} = \dots\dots\dots$
- 4) If a lower boundary of a set is 10 and the upper boundary is  $x$  and its centre is 15 , then  $x = \dots\dots\dots$
- 5) The additive inverse of the number :  $-\sqrt{3} - \sqrt{5}$  is .....
- 6) The slop of the straight line passing through  $( 2 , 3 )$  and  $( 5 , -1 )$  is .....
- 7) The S.S of the equation :  $( x^2 + 3 ) ( x^3 + 1 ) = 0$  is ....,  $x \in \mathbb{R}$
- 8) If the volume of a sphere is  $\frac{9}{2} \pi \text{ cm}^3$  then its diameter length is .....cm
- 9) The multiplicative inverse of the number  $( \sqrt{3} + \sqrt{2} )$  is .....  
( in the simplest form )
- 10)  $] -2 , 2 ] \cup \{ -2 , 0 \} = \dots\dots\dots$
- 11)  $( \sqrt{8} + \sqrt{2} ) ( \sqrt{8} - \sqrt{2} ) = \dots\dots\dots$
- 12) The cube whose volume is  $8 \text{ cm}^3$  , then the sum of all its edge lengths = ..... cm
- 13) The slop of the straight line perpendicular to  $y$ -axis is .....
- 14) If the mode of the values 4 , 11 , 8 , 2  $x$  is 4 then  $x = \dots\dots\dots$
- 15) The degree of the algebraic term  $3 x^2 y^2$  is .....
- 16)  $\sqrt[3]{\dots\dots\dots} = \sqrt{4}$



- 17) If the volume of the sphere is  $\frac{1}{6} \pi \text{ cm}^3$ , then its radius length = .....
- 18) The slope of the straight line parallel to  $x$ -axis is .....
- 19) A cube of side length 3 cm then its volume = .....  $\text{cm}^3$
- 20) The volume of a sphere whose diameter length is 6 cm  
= .....  $\pi \text{ cm}^3$
- 21) If the area of one face of a cube =  $9 \text{ cm}^2$  then its volume  
= .....  $\text{cm}^3$
- 22) The S.S of equation  $x^3 + 8 = 0$  in  $\mathbb{R}$  is .....
- 23)  $[2, 8] \cup \{8\} = \dots\dots\dots$
- 24) If the mode of 14, 9,  $x + 5$ , 9 and 14 is 9, then  $x = \dots\dots\dots$
- 25)  $[-5, 9] - \{-5, 9\} = \dots\dots\dots$
- 26) If  $(k, 2k)$  satisfies  $x + y = 15$ , then  $k = \dots\dots\dots$
- 27) If the mean of the values 9, 6, 5, 14 is  $k$ , then  $k = \dots\dots\dots$
- 28) If the volume of a sphere is  $\frac{9}{2} \pi \text{ cm}^3$ , then its radius length  
= .....
- 29) The mode of the values 5, 5, 6, 4, 5 is .....
- 30) If the volume of a sphere =  $36 \pi \text{ cm}^3$ , then its diameter length  
= ..... cm
- 31)  $\left(\frac{-5}{7}\right) \times \left(\frac{-7}{5}\right) = \dots\dots\dots$
- 32) If the sum of five numbers equals 30, then the arithmetic mean of these numbers is .....



- 33) If  $(-1, 5)$  satisfies the relation  $3x + ky = 7$ , then  $k = \dots\dots$
- 34) The point of intersection of the ascending and descending cumulative frequency curves determines  $\dots\dots\dots$  on the set-axis.
- 35) If  $(a, 3)$  satisfies the relation  $2x - y = 7$ , then  $a = \dots\dots\dots$

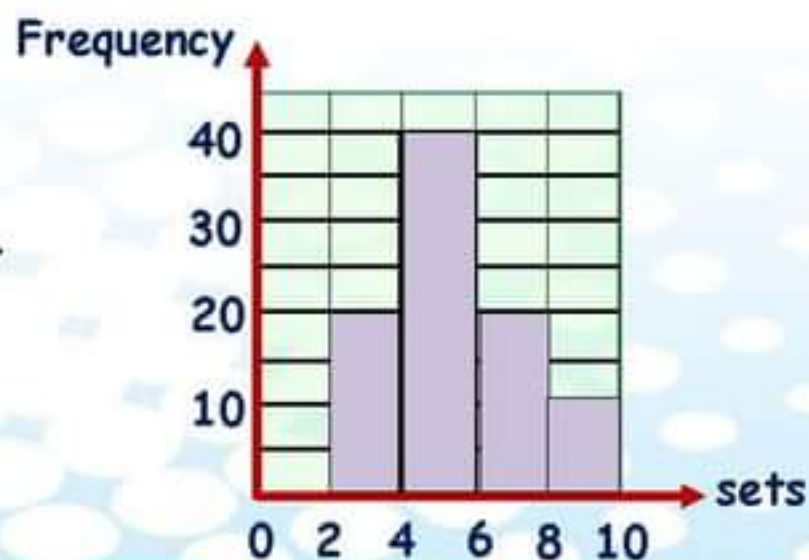
**[2] Choose the correct answer :**

- 36) If the lower limit of a set is 4 and the upper limit is 8, then its centre is  $\dots\dots\dots$  ( 4 , 2 , 6 , 8 )
- 37) The median of the values : 34 , 23 , 25 , 40 , 22 , 4 is  $\dots\dots\dots$  ( 22 , 23 , 24 , 25 )
- 38)  $(2\sqrt[3]{2})^3 = \dots\dots\dots$  ( 4 , 8 , 16 , 40 )
- 39) A right circular cylinder the radius length of its base is  $r$  cm and its height equals its diameter length then its volume =  $\dots\dots\dots$  cm<sup>3</sup> (  $\pi r^3$  ,  $\pi r^2$  ,  $2\pi r^3$  ,  $2r^3$  )
- 40) If the volume of a cube is 36 cm<sup>3</sup> then the area of one of its faces is  $\dots\dots\dots$  ( 3 cm<sup>2</sup> , 9 cm<sup>2</sup> , 36 cm<sup>2</sup> , 54 cm<sup>2</sup> )
- 41) If the point  $(a, 1)$  satisfies the relation  $x + y = 5$  then  $a = \dots\dots\dots$  ( 1 , -4 , 4 , 5 )

- 42) In the opposite figure :

The value of the mode =  $\dots\dots\dots$

( 4 , 5 , 6 , 40 )





- 43) If the radius length of a sphere is 6 cm , then its volume is ....  
 (  $6 \pi \text{ cm}^3$  ,  $36 \pi \text{ cm}^3$  ,  $72 \pi \text{ cm}^3$  ,  $288 \pi \text{ cm}^3$  )
- 44) If the arithmetic mean of the values : 27 , 8 , 16 , 24 , 6 , k is 14 , then k = ..... ( 3 , 6 , 27 , 84 )
- 45) The solution set of the equation :  $x ( x^2 - 1 ) = 0$   $x \in \mathbb{R}$  is .....  
 (  $\{ 0 \}$  ,  $\{ 1 \}$  ,  $\{ -1 \}$  ,  $\{ 0 , -1 , 1 \}$  )
- 46)  $\sqrt{3 \frac{3}{8}} = \frac{3}{2} \sqrt{\frac{\dots\dots\dots}{\dots\dots\dots}}$  (  $\frac{3}{8}$  ,  $\frac{3}{2}$  ,  $\frac{27}{8}$  ,  $\frac{729}{64}$  )
- 47) If the arithmetic mean of the values 18 , 21 , 29 ,  $2k + 1$  , k is 18 , then k = ..... ( 1 , 7 , 29 , 90 )
- 48)  $\mathbb{Z}^+ \cap \mathbb{Z}^- = \dots\dots\dots$  ( zero ,  $\emptyset$  ,  $\mathbb{Z}$  ,  $\mathbb{N}$  )
- 49) If  $x = 3 + \sqrt{3}$  and  $y = 3 - \sqrt{3}$  , then  $x - y = \dots\dots\dots$   
 (  $6\sqrt{3}$  , - 6 ,  $\sqrt{6}$  ,  $2\sqrt{3}$  )
- 50) The slop of x- axis is .....  
 ( negative , positive , undefined , zero )
- 51) The multiplicative inverse of  $\frac{\sqrt{3}}{6}$  is .....  
 (  $-\frac{\sqrt{3}}{6}$  ,  $6\sqrt{3}$  ,  $2\sqrt{3}$  ,  $-2\sqrt{3}$  )
- 52) The result of  $( 1 + \sqrt{5} ) ( 1 - \sqrt{5} ) = \dots\dots\dots$   
 ( 2 , - 4 ,  $-2\sqrt{5}$  ,  $2\sqrt{5}$  )
- 53) A ( 2 , 5 ) , b ( 3 , 7 ) , then the slop of  $\overleftrightarrow{AB} = \dots\dots\dots$   
 (  $\frac{1}{2}$  , 2 , - 2 , 5 )

- 54)  $\mathbb{Q} \cup \mathbb{Q}^- = \dots\dots\dots$  (  $\emptyset$  ,  $\mathbb{Z}$  ,  $\mathbb{N}$  ,  $\mathbb{R}$  )
- 55)  $(\sqrt{5} + \sqrt{3})^2 (\sqrt{5} - \sqrt{3})^2 = \dots\dots\dots$  ( 2 , 3 , 4 , 8 )
- 56)  $2 \in \dots\dots\dots$  (  $] -1, \infty]$  ,  $] 2, 5[$  ,  $] -\infty, 1[$  ,  $\{22\}$  )
- 57) If the order of the median of a set of values is the fifth , then the number of these values is .....
- ( 6 , 10 , 11 , 9 )
- 58) If ( -1 , 5 ) satisfies the relation  $3x + ky = 7$  , then  $k = \dots\dots\dots$
- ( 7 , 4 , 3 , 2 )
- 59) The intersection point of the ascending and descending cumulative frequency curves determines the .....
- ( mode , median , mean , centre )
- 60) The mean of the values 2 , 8 , 6 , 4 is .....
- ( 3 , 4 , 5 , 6 )
- 61) If the lower limit of a set is 4 and the upper limit is 8 , then its centre is .....
- ( 2 , 4 , 6 , 8 )
- 62)  $\mathbb{R} = \dots\dots\dots$  (  $[ 0, \infty]$  ,  $] -\infty, \infty[$  ,  $[ 0, \infty[$  ,  $] -\infty, 0]$  )
- 63) The conjugate of the number  $\sqrt{2} - \sqrt{3}$  is .....
- (  $\sqrt{2} + \sqrt{3}$  ,  $\sqrt{3} - 2$  ,  $2 - \sqrt{3}$  ,  $-\sqrt{2} + \sqrt{3}$  )
- 64) If  $x = \sqrt{7} - \sqrt{5}$  and  $y = \sqrt{7} + \sqrt{5}$  , then  $(xy)^3 = \dots\dots\dots$
- ( 4 , 6 , 8 , 9 )
- 65) The S.S of the equation :  $x^2 + 3 = 0$  in  $\mathbb{R}$  is .....
- (  $\emptyset$  ,  $\{-\sqrt{3}\}$  ,  $\{\sqrt{3}\}$  ,  $\{-\sqrt{3}, \sqrt{3}\}$  )



- 66) If  $x = \sqrt{3} + 2$  and  $y = \sqrt{3} - 2$ , then  $(xy, x + y) = \dots\dots\dots$   
 (  $(1, 2\sqrt{3})$  ,  $(-1, 2\sqrt{3})$  ,  $(5, 2\sqrt{3})$  ,  $(5, 9)$  )
- 67) If the volume of a right circular cylinder is  $90\pi \text{ cm}^3$  and its height is 10 cm, then the radius length of its base =  $\dots\dots\dots$  cm  
 ( 3 , 4.5 , 5 , 9 )
- 68)  $(3, 2)$  does not satisfy the relation  $\dots\dots\dots$ ,  
 (  $y + x = 5$  ,  $3y - x = 3$  ,  $y + x = 7$  ,  $x - y = 1$  )
- 69) The solution set of the equation :  $x^3 = 8$  in  $\mathbb{R}$  is  $\dots\dots\dots$   
 (  $\emptyset$  ,  $\{2\}$  ,  $\{-2\}$  ,  $\{0\}$  )
- 70) If the median of the set of the values :  $k + 1, k + 2, k + 5, k + 4, k + 3$  where  $k$  is a positive number is 13, then  $k = \dots\dots\dots$   
 ( 2 , 5 , 10 , 13 )

**[3] Answer the following :**

- 71) Find the S.S. of the inequality :  $-2 < 3x + 7 \leq 10$  in  $\mathbb{R}$ , then represent the interval of solution on the number line.
- 72) If  $x = \frac{3}{\sqrt{5} - \sqrt{2}}$  and  $y = \sqrt{5} - \sqrt{2}$ , Prove that  $x$  and  $y$  are two conjugate numbers.
- 73) If  $x = \sqrt{2 + \sqrt{3}}$ , find the value of :  $x^4 - 2x^2 + 1$
- 74) The radius length of the base of a right circular cylinder is  $4\sqrt{2}$  and its height is 9 cm. Find its volume in terms of  $\pi$  and if its volume equal the volume of a sphere, find the radius length of the sphere.



75) The area of a square is 1089 cm<sup>2</sup>. Find the length of its diagonal

76) Reduce to the simplest form :  $\frac{\sqrt{3}}{\sqrt{5}-\sqrt{3}} + \frac{\sqrt{5}}{\sqrt{5}+\sqrt{3}}$

77) Find the arithmetic mean of the following frequency distribution :

The sets	5 -	15 -	25 -	35 -	45 -	Total
Frequency	4	5	6	3	2	20

78) Find the value of :  $\sqrt{18} + \sqrt[3]{54} - 3\sqrt{2} - \frac{1}{2}\sqrt[3]{16}$

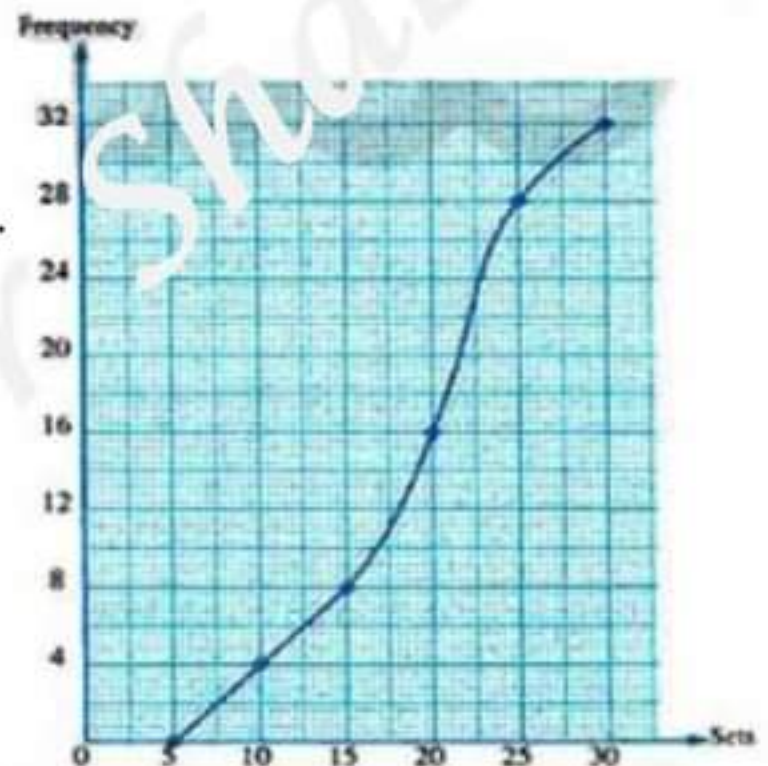
79) The opposite graph represents the marks of 32 pupils in an exam .

Complete :

The median mark = .....

80) Graph the relation :  $2x + 3y = 6$  if the straight line representing this relation intersects the  $x$ -axis at

A and the  $y$ -axis at B , find the area of the triangle OAB where O is the origin point .



81) If  $x = \sqrt{7} + \sqrt{5}$  ,  $y = \frac{2}{\sqrt{7}+\sqrt{5}}$

(a) Prove that :  $x$  and  $y$  are two conjugate numbers .

(b) Find :  $xy$  ,  $(x+y)^2$

82) Simplify :  $\sqrt{18} + \sqrt{50} - 2\sqrt{8}$



83) Find the arithmetic mean of the following frequency distribution :

Sets	10 -	20 -	30 -	40 -	50 -	Total
Frequency	5	15	20	25	10	75

84) If  $X = [ -3 , 4 ]$  ,  $Y = ] 1 , \infty [$  , find each of the following using the number line : (a)  $X \cap Y$  (b)  $X - Y$

85) Find the volume of the right circular cylinder whose diameter length of its base is 10 cm and its height is 7 cm . (  $\pi = \frac{22}{7}$  )

86) If  $x = \sqrt{5} + \sqrt{2}$  ,  $y = \frac{3}{x}$  , then find the value of  $\frac{x+y}{xy}$  in its simplest form .

87) Find three ordered pairs satisfying the relation  $2x + y = 7$  , represent it graphically .

88) Graph :  $y + 2x = 4$  . Does the point ( -1 , 6 ) belong to the straight line ?

89) If the volume of a sphere is  $288\pi \text{ cm}^3$  . find its area .

90) Find the solution set in  $\mathbb{R}$  to the following inequality in the form of an interval :  $x - 2 > 3$

91) Represent the relation  $x + y = 3$  on the coordinate plane .

92) If  $x = \sqrt{6} + \sqrt{5}$  and  $y = \sqrt{6} - \sqrt{5}$  , find :  $(x + y)^2$

93) Simplify to the simplest form :  $\sqrt[3]{-16} + \frac{14}{\sqrt{7}} - \sqrt{28} + \sqrt[3]{54}$

94) Let  $A ( 2 , -1 )$  ,  $B ( 10 , 3 )$  and  $C ( 2 , 3 )$  , find the slope of  $\overleftrightarrow{AB}$  and  $\overleftrightarrow{AC}$



95) From the following frequency table with equal sets :

The Set	10 -	20 -	30 -	40 -	50 -	60 - 70	Total
Frequency	12	15	25	27	$K + 4$	4	100

(a) Find the value of K

(b) calculate the median .

96) Prove that :  $\sqrt[3]{128} + \sqrt[3]{16} - 2\sqrt[3]{54} = 0$

97) If  $X = ] -\infty , 5 ]$  and  $Y = ] 1 , 9 [$  Find using the number line :

(1)  $X \cap Y$

(2)  $X \cup Y$

(3)  $X - Y$

(4)  $X'$

98) Find the circumference of the circle whose area is  $3\pi \text{ cm}^2$  .

99) The following table shows the frequency distribution of the weekly bonus of 100 workers in a factory :

Bonus in L.E	20 -	30 -	40 -	50 -	m -	70 -
No. of workers	10	k	22	26	20	8

(a) Find the value of each of k and m .

(b) Graph the frequency histogram , then find the mode value of the weekly bonus .

100) Find the height of a right circular cylinder whose height is equal to its base radius length and its volume is  $72\pi \text{ cm}^3$



حمل الآن

مجاناً وحصرياً

# المراجعة رقم (6)

## الترم الاول



**1) Complete the following:**

- 1) The S.S of the equation  $(x^2 + 3)(x^3 + 1) = 0$  is .....  $\in R$
- 2)  $] -2, 2] \cup \{-2, 0\} =$  .....
- 3) If the volume of a sphere is  $\frac{9}{2} \pi \text{ cm}^3$ , then its diameter length is .....
- 4) The multiplicative inverse of the number  $(\sqrt{3} + \sqrt{2})$  is ..... in simplest form.
- 5) The surface area of the sphere of diameter length 14 cm equal .....
- 6)  $(\sqrt{8} + \sqrt{2})(\sqrt{8} - \sqrt{2}) =$  .....
- 7) A cube whose volume is  $8 \text{ cm}^3$  , then the sum of lengths of all its edges equal .....
- 8) The S.S of the equation  $X(X^3 - 1) = 0$  in  $\mathbb{R}$  is .....
- 9)  $[1, 5] - \{1, 5\} =$  .....
- 10) The S.S of the equation  $:(x - 1)(x - 5) = 0$  in  $\mathbb{R}$  is .....
- 11) A right circular , its volume is  $343 \pi \text{ cm}^3$  if its height equals its base radius length , then its height equals .....
- 12) The additive inverse of the number  $(\sqrt{7} - \sqrt{3})$  is .....
- 13) The edge length of a cube is 3 cm , then the area of any one of its faces is .....
- 14)  $\sqrt{\frac{(40)}{(13)-(12)}} =$  ..... (in the simplest form)







15)  $\sqrt{8} - \sqrt{2} = \dots\dots\dots \sqrt{2}$

16)  $(\sqrt{7} + \sqrt{3})^2 = \dots\dots\dots$  (in the simplest form)

17) If the arithmetic mean of the values 9 , 6 , 5 , 14 , K is 7 then k = .....

18)  $] 1, 3 ] \cup [ 2 , 5 ] = \dots\dots\dots$

19) The radius of the sphere whose volume is  $\frac{4}{3} \pi \text{ cm}^3$  equals .....

20) The S.S OF the equation:  $x^2 + 25 = 0$  in  $\mathbb{R}$  is .....

21) The square of the number  $(\sqrt{5} + \sqrt{2})$  is .....

22) The slope of any line parallel to x-axis is .....

23) The slope of x-axis is .....

24) The slope of y-axis is .....

25) The slope of the straight line passing through the two points (3,5), (-3, 1) is .....

26) If (2 , 3) satisfies the relation :  $X + Y = K$  , then k = .....

27) The multiplicative inverse of  $\frac{2\sqrt{3}}{6}$  in simplest form is .....

**2) Choose the correct answer from the given ones:**

1) If the radius length of the sphere is 6 cm , then its volume is .....

a)  $6 \pi \text{ cm}^3$       b)  $36 \pi \text{ cm}^3$       c)  $72 \pi \text{ cm}^3$       d)  $288 \pi \text{ cm}^3$

2) If the lowest boundary of a set is 10 and the upper boundary is X and its center is 15 , then X= .....

a) 10      b) 15      c) 20      d) 40





3)  $(2\sqrt[3]{2})^3 = \dots\dots\dots$

- a) 4                      b) 8                      c) 16                      d) 40

4) The median of the value :34, 23, 25, 40, 22, 4 is  $\dots\dots\dots$

- a) 22                      b) 23                      c) 24                      d) 25

5) If the arithmetic mean of the value :27, 8, 16, 6, K is 14 , then K=  $\dots\dots\dots$

- a) 3                      b) 6                      c) 27                      d) 84

If the volume of a cube is  $27\text{cm}^3$ , then the area of one of its faces is  $\dots\dots\dots$

- a)  $3\text{cm}^2$                       b)  $9\text{cm}^2$                       c)  $36\text{cm}^2$                       d)  $54\text{cm}^2$

6) If the mode of the set of value 4, 11 , 8 ,  $2X$  is 4 then  $X = \dots\dots\dots$

- a) 2                      b) 4                      c) 6                      d) 8

7) If the arithmetic mean of the set of values 18 , 23 , 29 ,  $2K - 1$  , K is 18 then  $K = \dots\dots\dots$

- a) 1                      b) 7                      c) 29                      d) 90

8) If the lowest limit of a set is 4 and the upper limit is 8 then its center is  $\dots\dots\dots$

- a) 2                      b) 4                      c) 6                      d) 8

9) If :  $\frac{3}{4}$  the volume of the sphere is  $8\pi\text{cm}^3$  , then its radius length is  $\dots\dots\dots$

- a) 64                      b) 8                      c) 4                      d) 2

10) If the median of the set of the values  $K+1$  ,  $K+2$  ,  $K+5$  ,  $K+4$  ,  $K+3$  where K is the positive number is 13 , then  $K = \dots\dots\dots$

- a) 2                      b) 5                      c) 10                      d) 13

11) If :  $x = \sqrt{3} + 2$  and  $y = \sqrt{3} - 2$  then  $(xy, x+y) = \dots\dots\dots$

- a)  $(1, 2\sqrt{3})$                       b)  $(-1, 2\sqrt{3})$                       c)  $(5, 2\sqrt{3})$                       d)  $(5, 9)$

12) If the mark of 8 students in one exam are 40 , 17 , 39 , 27 , 28 , 37 , 27 , 25 , then the arithmetic mean of these mark is  $\dots\dots\dots$

- a) 64                      b) 240                      c) 30                      d) 8

13) The number  $(1 - \sqrt{5})(1 + \sqrt{5})$  is a  $\dots\dots\dots$  number .

- a) Positive natural                      b) rational                      c) irrational                      d) prime







- 14) If the start of a set is 18 and its center is 20, then its length is .....  
 a) 2                      b) 4                      c) 9                      d) 10
- 15)  $] -1, 3] \cap [ -3, -1 ]$  equals .....  
 a)  $\emptyset$                       b)  $\{-3\}$                       c)  $\{-1\}$                       d)  $\{3\}$
- 16) The S.S of the equation  $x^2 + 3 = 0$  in  $\mathbb{R}$  is = .....  
 a)  $\emptyset$                       b)  $\{-\sqrt{3}\}$                       c)  $\{\sqrt{3}\}$                       d)  $\{\pm\sqrt{3}\}$
- 17) If :  $x = \sqrt{7} + \sqrt{2}$  and  $y = \sqrt{7} - \sqrt{2}$  ,then  $x - y =$  .....  
 a)  $7\sqrt{2}$                       b)  $2\sqrt{7}$                       c)  $\sqrt{41}$                       d)  $2\sqrt{2}$
- 18)  $\sqrt{3}(\sqrt{11} + \sqrt{3}) =$  .....  
 a)  $3\sqrt{11} + 2$                       b)  $\sqrt{33} + 3$                       c)  $11\sqrt{3} + 2$                       d)  $2\sqrt{11} + 3$
- 19) If the order of the median of a set of the values is the fourth , then the numbers of values is .....  
 a) 3                      b) 5                      c) 7                      d) 9
- 20) If the mode of the set of values : 5, 9, 5, x-2 , 9 is 9 , then x = .....  
 a) 5                      b) 57                      c) 9                      d) 11
- 21)  $R =$  .....  
 (a)  $R_+ \cap R_-$                       (b)  $R_+ \cup R_-$                       (c)  $] -\infty, \infty[$                       (d)  $Q \cap Q'$
- 22)  $R_+ =$  .....  
 (a)  $] 0, \infty[$                       (b)  $] -\infty, 0[$                       (c)  $] 0, -\infty[$                       (d)  $] -\infty, 0]$
- 23)  $R_- =$  .....  
 (a)  $] 0, \infty[$                       (b)  $] -\infty, 0[$                       (c)  $] 0, -\infty[$                       (d)  $] -\infty, 0]$
- 24) The set of non-negative real numbers = .....  
 (a)  $] 0, \infty[$                       (b)  $] -\infty, 0[$                       (c)  $] 0, -\infty[$                       (d)  $] -\infty, 0]$
- 25) The set of non-positive real numbers = .....  
 (a)  $] 0, \infty[$                       (b)  $] -\infty, 0[$                       (c)  $] 0, -\infty[$                       (d)  $] -\infty, 0]$





3) Find the value of :  $\sqrt{18} + \sqrt[3]{54} - 3\sqrt{2} - \frac{1}{2}\sqrt[3]{16}$

4) Prove that :  $\sqrt[3]{128} - \sqrt[3]{16} - 2\sqrt[3]{54} = 0$

5) Find in the simplest form :  $2\sqrt{18} + \sqrt{50} + \frac{1}{3}\sqrt{162}$

6) Reduce :  $2\sqrt{5} + 4\sqrt{\frac{1}{3}} - \sqrt{27} - 5\sqrt{\frac{1}{5}}$

7) Find in the simplest form:  $\sqrt[3]{54} + 4\sqrt[3]{\frac{1}{4}} - \sqrt[3]{-2}$







8) If :  $x = \sqrt{5} + \sqrt{2}$  and,  $y = \sqrt{5} - \sqrt{2}$  Find the value of  $\frac{x+y}{xy-1}$

9) If :  $x = \frac{4}{3+\sqrt{5}}$   $y = 3 + \sqrt{5}$  prove that :  $x$  and  $y$  are conjugate numbers , then find the value of  $x^2 + y^2$

10) If  $(\sqrt{3})^x = (2\sqrt{2} - \sqrt{5})(2\sqrt{2} + \sqrt{5})$  , then what is the value of  $X$

11) Find the S.S of the inequality:  $-2 < 3X + 7 \leq 10$  in  $\mathbb{R}$  , then represent the interval of the solution on the number line.





12) Find the S.S of the equation in  $\mathbb{R}$  :  $(x^2 - 9)(x^2 - 5) = 0$

13) Find the S.S of the inequality:  $X - 5 < 2X + 4 \leq X + 3$  in  $\mathbb{R}$ , then represent the interval of the solution on the number line.

14) Write in the form of an interval the S.S of the inequality:

$$X + 4 \geq 2X - 3 > X + 1$$







15) The radius length of the base of right circular cylinder is  $4\sqrt{2}$  .and its height is 9 cm .find its volume in terms of  $\pi$  and if its volume equal the volume of the sphere fin the radius length of the sphere.

16) The volume of the sphere is  $\frac{99000}{7} \text{ cm}^3$  .calculate its radius length. ( $\pi = \frac{22}{7}$ )

17) Find the total area of a right circular of volume  $7536 \text{ cm}^3$  and its height is 24 cm  
( $\pi = 3.14$ )





**18) Find the volume and surface area of a sphere if the length its diameter is 4.2cm**

.....

.....

.....

.....

.....

**19) Represent graphically the relation :  $Y = 2 - X$**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

**20) Represent graphically the relation :  $Y = X + 3$**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....







21) If  $M = [2, \infty]$ ,  $J = ]-2, 3[$ , find each of the following using the number line

a.  $M \cup J =$  .....

b.  $M \cap J =$  .....

c.  $M - J =$  .....

d.  $\dot{M} =$  .....

e.  $\dot{J} =$  .....

22) If:  $X = ]-\infty, 3]$  and  $Y = [-4, \infty[$ , find using the number line.

a.  $X \cup Y =$  .....

b.  $X \cap Y =$  .....

c.  $X - Y =$  .....

d.  $Y - X =$  .....

e.  $\dot{X} =$  .....

f.  $\dot{Y} =$  .....





23) Complete : the median of the values 2 , 9 , 3 , 7 , 5 is .....

24) Find the arithmetic mean of the following frequency distribution:

Sets	5-	15-	25-	35-	45-	Total
Frequency	3	4	7	4	2	20

Math's Team







25) A factory has 600 workers. A sample of 120 workers is selected to represent the society very well. the frequency distribution was as in the table:

Age	25-	30-	35-	40-	45-	50-	Total
No. of workers	12	17	18	40	25	8	120

Draw the histogram, then from the graph deduce the mode of the ages of the workers of the factory.





26) Find the median using the ascending cumulative table, find the value of K:

Sets	20-	30-	K-	50-	60-	70-	Total
Frequency	10	15	22	25	20	8	100

Math's Team





حمل الآن

مجاناً وحصرياً

# المراجعة رقم (7)

## الترم الاول





# Exercises

[ A ] : Choose The Correct Answer : -

1	$\sqrt[3]{a^3} = \dots\dots\dots$ A) a                      B) $a^2$ C) $a^3$ D) $2a$	A
2	$\sqrt{3} (\sqrt{11} + \sqrt{3}) = \dots\dots\dots$ A) $3\sqrt{11} + 2$ B) $\sqrt{33} + 3$ C) $11\sqrt{3} + 2$ D) $2\sqrt{11} + 3$	B
3	$\sqrt{25} = \sqrt[3]{\dots\dots\dots}$ A) 5                      B) 15                      C) 125                      D) -5	C
4	$\sqrt[3]{\dots\dots\dots} = 4$ A) 4                      B) 16                      C) 64                      D) 1	C
5	$\sqrt{25} + \sqrt[3]{-27} = \sqrt{\dots\dots\dots}$ A) 8                      B) 4                      C) 2                      D) 5	B
6	$\sqrt[3]{64} = \sqrt{X}$ , then $2X = \dots\dots\dots$ A) 4                      B) 8                      C) 16                      D) 32	D
7	$\sqrt[3]{64} = \sqrt{\dots\dots\dots}$ A) 64                      B) 8                      C) 16                      D) 32	C
8	$\sqrt[3]{27} = \sqrt{X+3}$ , then $X = \dots\dots\dots$ A) 3                      B) 6                      C) 9                      D) 12	B
9	$\sqrt[3]{64 + \dots\dots\dots} = 5$ A) 5                      B) 61                      C) 100                      D) 25	B
10	If : $X^3 = 64$ , then : $\sqrt{X} = \dots\dots\dots$ A) 4                      B) -4                      C) 2                      D) -2	C
11	$X^2 = 5$ , then $(X + \sqrt{5})^2 = \dots\dots\dots$ or $\dots\dots\dots$ A) 0 , 4                      B) 0 , 20                      C) 0 , 25                      D) 0 , 10	B



12	$\frac{x^3}{y^3} = \frac{8}{27}$ , then $(\frac{y}{x})^2 =$ .....	D
	A) $\frac{8}{27}$ B) $\frac{2}{3}$ C) $\frac{4}{9}$ D) $\frac{9}{4}$	
13	$x^2 - y^2 = 60$ and $x + y = 5$ , then $x - y =$ .....	D
	A) 5      B) 60      C) 300      D) 12	
14	The solution set of the equation : $x^2 = 2$ in R is .....	D
	A) $\{\sqrt{2}\}$ B) $\{-\sqrt{2}\}$ C) $\{2\}$ D) $\{\sqrt{2}, -\sqrt{2}\}$	
15	The solution set of the equation : $x^2 + 2 = 0$ in R is .....	A
	A) $\emptyset$ B) $-\sqrt{3}$ C) $\sqrt{3}$ D) $\pm\sqrt{3}$	
16	The solution set of the equation : $x^3 + 8 = 0$ in R is .....	B
	A) $\{2\}$ B) $\{-2\}$ C) $\{2\sqrt{2}\}$ D) $\{2, -2\}$	
17	The solution set of the equation : $x^3 + 9 = 8$ in R is .....	D
	A) $\{8\}$ B) $\{9\}$ C) $\{3\}$ D) $\{-1\}$	
18	The S.S of the equation : $(x^2 + 3)(x^2 + 1) = 0$ in R is .....	A
	A) $\emptyset$ B) $\{3, 1\}$ C) $\{-3, -1\}$ D) $\{\pm 3, \pm 1\}$	
19	The S.S of the equation : $(x^2 + 1)(x - 5) = 0$ in R is .....	B
	A) $\emptyset$ B) $\{5\}$ C) $\{5, \pm 1\}$ D) $\{\pm 1\}$	
20	The S.S of the equation : $(x^2 + 3)(x^3 + 1) = 0$ in R is .....	D
	A) $\emptyset$ B) $\{1\}$ C) $\{\pm 3, \pm 1\}$ D) $\{-1\}$	
21	The S.S of the equation : $(x^2 - 1)(x + 5) = 0$ in R is .....	C
	A) $\emptyset$ B) $\{-5\}$ C) $\{-5, \pm 1\}$ D) $\{\pm 1\}$	
22	The S.S of the equation : $x(x^3 - 1) = 0$ in R is .....	B
	A) $\emptyset$ B) $\{0, 1\}$ C) $\{0, \pm 1\}$ D) $\{1\}$	
23	If : $\frac{3}{a+2}$ is a rational number the $a \neq$ .....	C
	A) 3      B) 5      C) -2      D) zero	
24	If $n \in \mathbb{Z}_+$ , $n < \sqrt{26} < n + 1$ , then $a =$ .....	B
	A) 25      B) 5      C) 24      D) -5	



25	The irrational number in the following numbers is .....	C
	A) $\sqrt{\frac{1}{9}}$ B) $\sqrt{\frac{1}{4}}$ C) $\sqrt{3}$ D) $\sqrt[3]{27}$	
26	The irrational number lies between 2 and 3 is .....	B
	A) $\sqrt{10}$ B) $\sqrt{7}$ C) 2.5      D) $\sqrt{3}$	
27	The area of a square whose side length is $\sqrt{3}$ cm = ..... cm <sup>2</sup>	C
	A) $4\sqrt{3}$ B) +      C) 3      D) 6	
28	The square whose area is 10 cm <sup>2</sup> , its side length is ..... cm	C
	A) 5      B) -5      C) $\sqrt{10}$ D) $-\sqrt{10}$	
29	The multiplicative inverse of $\frac{\sqrt{3}}{3}$ is .....	A
	A) $\sqrt{3}$ B) 1      C) 3      D) $-\sqrt{3}$	
30	The multiplicative inverse of $\sqrt{5}$ is .....	B
	A) $-\sqrt{5}$ B) $\frac{\sqrt{5}}{5}$ C) $5\sqrt{5}$ D) $\frac{5}{\sqrt{5}}$	
31	The multiplicative inverse of $(\sqrt{3} + \sqrt{2})$ is .....	D
	A) $\sqrt{3}$ B) $\sqrt{2}$ C) $\sqrt{3} + \sqrt{2}$ D) $\sqrt{3} - \sqrt{2}$	
32	The additive inverse of $(3 - 2\sqrt{2})$ is .....	D
	A) $3 + 2\sqrt{2}$ B) 3      C) 2      D) $2\sqrt{2} - 3$	
33	$Q \cap Q^c =$ .....	B
	A) {0}      B) $\emptyset$ C) R      D) Q	
34	$Q \cup Q^c =$ .....	C
	A) {0}      B) $\emptyset$ C) R      D) Q	
35	$R_+ \cup R_- =$ .....	D
	A) R      B) Q      C) N      D) $R^*$	
36	$\sqrt[3]{8} \dots \dots \dots ] - \infty, 4[$	A
	A) $\in$ B) $\notin$ C) $\subset$ D) $\not\subset$	
37	$5 \in$ .....	D
	A) $]5, \infty[$ B) $] - \infty, 5[$ C) (3, 5)      D) $[-5, \infty[$	



38	$R = \dots\dots\dots$ A) $R_+ \cup R_-$ B) $R_+ \cap R_-$ C) $] -\infty, \infty[$ D) $Q \cap Q'$	C
39	$R_+ = \dots\dots\dots$ A) $] 0, \infty[$ B) $] -\infty, 0[$ C) $[ 0, \infty[$ D) $] -\infty, 0]$	A
40	$R_- = \dots\dots\dots$ A) $] 0, \infty[$ B) $] -\infty, 0[$ C) $[ 0, \infty[$ D) $] -\infty, 0]$	B
41	The set of none –negative numbers = $\dots\dots\dots$ A) $] 0, \infty[$ B) $] -\infty, 0[$ C) $[ 0, \infty[$ D) $] -\infty, 0]$	C
42	The set of none –positive numbers = $\dots\dots\dots$ A) $] 0, \infty[$ B) $] -\infty, 0[$ C) $[ 0, \infty[$ D) $] -\infty, 0]$	D
43	$[ 2, 7] - \{ 2, 7 \} = \dots\dots\dots$ A) $\emptyset$ B) $[ 1, 6]$ C) $] 2, 7[$ D) $\{ 0 \}$	C
44	$[ -2, 5] - \{ -2, 6 \} = \dots\dots\dots$ A) $] -2, 5[$ B) $] -2, 6[$ C) $] -2, 5]$ D) $[ -2, 5[$	C
45	$] 3, 5[ \cup \{ 3, 5 \} = \dots\dots\dots$ A) $] 3, 5[$ B) $[ 3, 5[$ C) $] 3, 5]$ D) $[ 3, 5]$	D
46	$] -2, 2] \cup \{ -2, 0 \} = \dots\dots\dots$ A) $] -2, 2[$ B) $[ -2, 2[$ C) $] -2, 2]$ D) $[ -2, 2]$	B
47	$[ 1, 3] \cup [ 2, 5[ = \dots\dots\dots$ A) $] 1, 5[$ B) $[ 1, 5[$ C) $] 1, 5]$ D) $[ 1, 5]$	B
48	$] -\infty, 1] \cup [ -4, \infty[ = \dots\dots\dots$ A) $R$ B) $[ -4, \infty[$ C) $] -\infty, 1]$ D) $Q$	A
49	$] -1, 3] \cap [ -3, -1] = \dots\dots\dots$ A) $\emptyset$ B) $\{ -1 \}$ C) $\{ -3 \}$ D) $\{ 3 \}$	B
50	$[ 1, 5] \cap [ -2, 3] = \dots\dots\dots$ A) $\{ 1, 3 \}$ B) $] 1, 3[$ C) $[ 1, 3]$ D) $[ 1, 3[$	C
51	$N \cap [ 1, 2[ = \dots\dots\dots$ A) $\emptyset$ B) $\{ 1, 2 \}$ C) $\{ 1 \}$ D) $] 1, 2[$	A



52	$[3, 7[-] - 2, 5] = \dots\dots\dots$ A) $]5, 7[$ B) $\{5, 7\}$ C) $] - 2, 3[$ D) $[3, 5]$	A
53	The additive neutral ( identity ) in R is ..... A) 0      B) 1      C) 2      D) 3	A
54	The multiplicative neutral ( identity ) in R is ..... A) 0      B) 1      C) 2      D) 3	B
55	If $a \in \mathbb{N}$ , $b \in \mathbb{Z}$ and $c \in \mathbb{R}$ , then $a + b + c \in \dots\dots\dots$ A) $\mathbb{N}$ B) $\mathbb{Z}$ C) $\mathbb{Q}$ D) $\mathbb{R}$	D
56	If $a \in \mathbb{R}$ and $b \in \mathbb{R}$ . then $a - b$ means the sum of the number a and of ..... inverse of the number b A) 0      B) B      C) Additive      D) multiplicative	C
57	The number $(1 - \sqrt{3})(1 + \sqrt{3})$ is a number ..... A) Natural      B) Rational      C) Irrational      D) Prime	B
58	The simplest form of the expression : $(\sqrt{3} - 1)^2 (\sqrt{3} + 1)^2$ is ..... A) 3      B) 4      C) 13      D) 25	B
59	The multiplicative inverse of $(\sqrt{7} + \sqrt{3})(\sqrt{7} - \sqrt{3})$ is ..... A) 4      B) -4      C) $\frac{1}{4}$ D) $-\frac{1}{4}$	C
60	If : $X = \sqrt{5} + \sqrt{3}$ , $y = \sqrt{5} - \sqrt{3}$ , then $X - y = \dots\dots\dots$ A) $2\sqrt{3}$ B) $5\sqrt{3}$ C) $2\sqrt{5}$ D) 2	A
61	If : $X = \sqrt{7} + \sqrt{3}$ , $y = \sqrt{7} - \sqrt{3}$ , then $(X - y)^3 = \dots\dots\dots$ A) Zero      B) 24      C) $24\sqrt{3}$ D) 196	C
62	The conjugate number of : $\sqrt{5} + \sqrt{3}$ is ..... A) $\sqrt{5} + \sqrt{3}$ B) $\sqrt{5} - \sqrt{3}$ C) $2\sqrt{3}$ D) $2\sqrt{5}$	B
63	The conjugate number of : $\frac{2}{\sqrt{5} - \sqrt{3}} = \dots\dots\dots$ A) $\sqrt{5} + \sqrt{3}$ B) $\sqrt{5} - \sqrt{3}$ C) $2\sqrt{3}$ D) $2\sqrt{5}$	B
64	The conjugate number of : $\sqrt{3} - \frac{5}{\sqrt{5}} = \dots\dots\dots$ A) $\sqrt{5} + \sqrt{3}$ B) $\sqrt{5} - \sqrt{3}$ C) $2\sqrt{3}$ D) $2\sqrt{5}$	A



65	If : $\frac{X}{5 - \sqrt{5}} = 5 + \sqrt{5}$ , then X = .....	B
	A) 25                      B) 20                      C) 15                      D) 10	
66	If : $\frac{1}{X} = \sqrt{5} - 2$ , then X = .....	B
	A) $\sqrt{5} - 2$ B) $\sqrt{5} + 2$ C) $\sqrt{5} - 5$ D) 0	
67	If : $X = \frac{2}{\sqrt{5} - \sqrt{3}}$ and $Xy = 2$ , then y = .....	B
	A) $\sqrt{5} + \sqrt{3}$ B) $\sqrt{5} - \sqrt{3}$ C) $2\sqrt{3}$ D) $2\sqrt{5}$	
68	A rectangle of dimensions $(\sqrt{3} - 1)$ , $(\sqrt{3} + 1)$ cm. its area is.....	A
	A) 2                          B) 4                          C) $2\sqrt{3}$ D) $2\sqrt{5}$	
69	If : $X = \sqrt{3} + 2$ , $y = \sqrt{3} - 2$ , then $(Xy , X + y) =$ .....	D
	A) (1 , 1)                  B) (-1 , 4)                  C) (-1 , 9)                  D) $(-1 , 2\sqrt{3})$	
70	If : $X = \sqrt[3]{3} + 7$ , $y = \sqrt[3]{3} - 7$ , then $(X + y)^3 =$ .....	C
	A) 3                          B) 7                          C) 24                          D) 64	
71	$\sqrt[3]{54} + \sqrt[3]{-2} =$ .....	C
	A) $\sqrt[3]{52}$ B) $\sqrt[3]{2}$ C) $2\sqrt[3]{2}$ D) $4\sqrt[3]{2}$	
72	$\sqrt[3]{2} + \sqrt[3]{2} =$ .....	C
	A) $\sqrt[3]{2}$ B) $\sqrt[3]{4}$ C) $\sqrt[3]{8}$ D) $\sqrt[3]{16}$	
73	$\sqrt[3]{\frac{2}{3}} \times \sqrt[3]{-12} =$ .....	B
	A) 2                          B) -2                          C) 3                          D) 5	
74	$\sqrt[3]{24} + \sqrt[3]{-81} + \sqrt[3]{3} =$ .....	B
	A) $\sqrt[3]{3}$ B) 0                          C) $6\sqrt[3]{3}$ D) $-\sqrt[3]{3}$	
75	If the side length of a square is L cm. and its area is $30 \text{ cm}^2$ , then the area of the square whose side length equals 2 L cm. is .....	C
	A) 30                          B) 60                          C) 120                          D) 180	




76	Volume of a cube whose edge length 2 L cm. is ..... $\text{cm}^3$ A) 2 L                      B) 8 L                      C) $8 L^3$ D) $L^3$	C
77	The lateral area of a cube whose edge length is L cm. = ..... $\text{cm}^2$ A) $L^2$ B) $4L^3$ C) $L^3$ D) $4L^2$	D
78	The edge length of a cube is 4 cm. , then its total area = ..... $\text{cm}^2$ . A) 4                      B) 64                      C) 96                      D) 144	C
79	If the edge length of a cube is 5 cm. , then its volume = ..... $\text{cm}^3$ . A) 5                      B) 25                      C) 125                      D) 325	C
80	The sum of lengths of all edges of a cube is 36 cm. , then its total area equals ..... $\text{cm}^2$ A) 3                      B) 12                      C) 54                      D) 36	C
81	If the volume of a cube is $216 \text{ cm}^3$ , then the length of its edge is ..... A) 6                      B) 12                      C) 24                      D) 36	A
82	The edge length of a cube whose volume is $3 \text{ cm}^3$ is .....cm. A) $\sqrt{3}$ 3                      1                      D) $\sqrt[3]{3}$	D
83	The edge length of a cube whose volume is $2\sqrt{2} \text{ cm}^3$ is ..... cm A) $\sqrt{2}$ B) 2                      C) 8                      D) 1.5	A
84	If the volume of a cube is $40\sqrt{5} \text{ cm}^3$ , then its edge length is .....cm. A) $\sqrt{5}$ B) $8\sqrt{5}$ C) $2\sqrt{5}$ D) $5\sqrt{2}$	C
85	The volume of a cuboid whose dimensions are : $\sqrt{2}$ , $\sqrt{3}$ , $\sqrt{6}$ cm is ..... $\text{cm}^3$ A) 6                      B) 2                      C) 3                      D) 36	A
86	If a volume of a cube is $27 \text{ cm}^3$ , then the total area is ..... $\text{cm}^2$ A) 3                      B) 9                      C) 36                      D) 54	D
87	If a volume of a cube is $27 \text{ cm}^3$ , then the lateral area is ..... $\text{cm}^2$ A) 3                      B) 9                      C) 36                      D) 54	C
88	If a area of one face of a cube is $25 \text{ cm}^2$ , then it's volume = ..... $\text{cm}^3$ A) 25                      B) 5                      C) 125                      D) 1	C

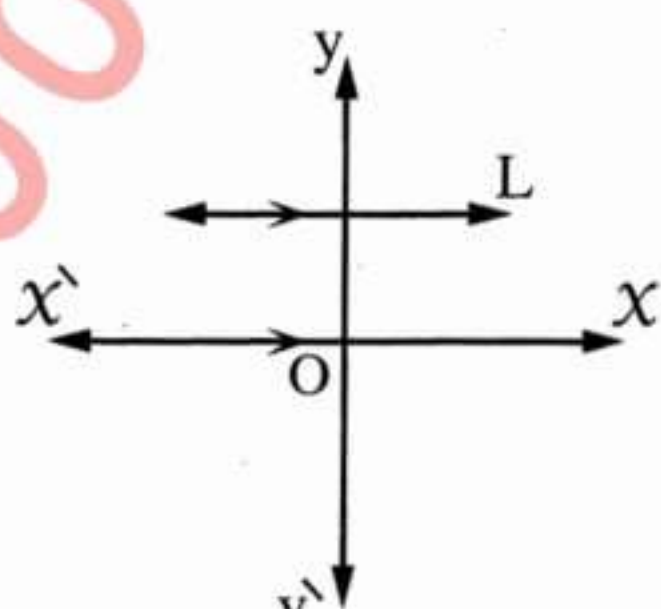
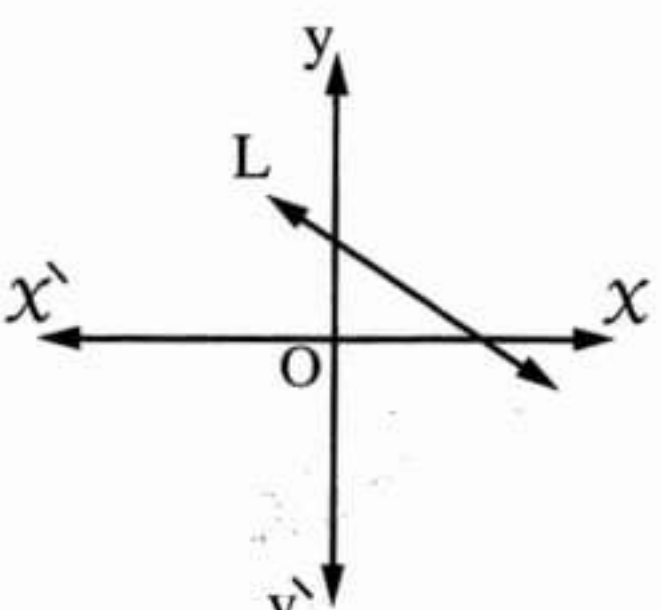
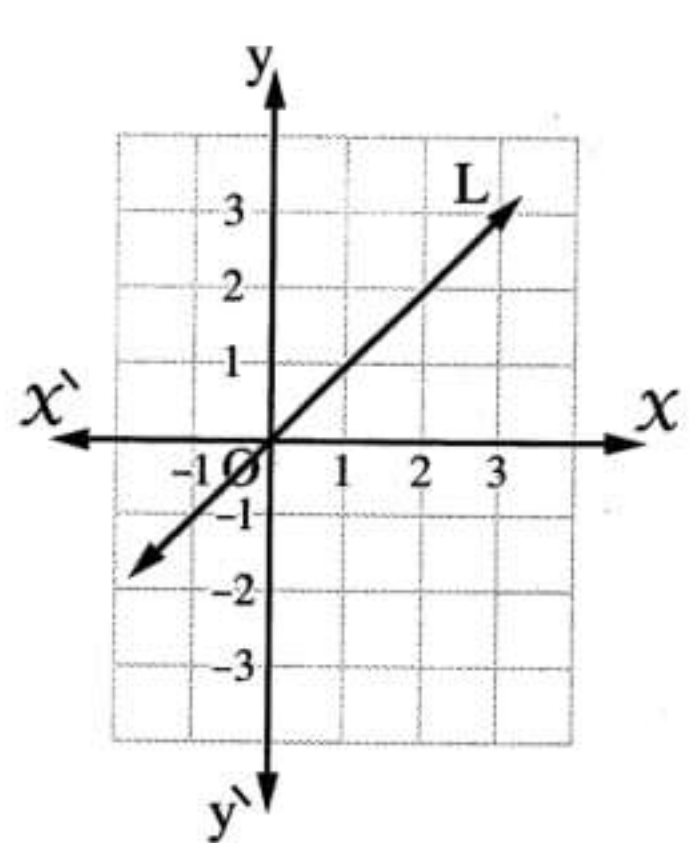


89	Area of the square of side length is 21 cm. = ..... cm <sup>2</sup> A) 441                      B) 400                      C) 525                      D) 625	A
90	The volume of a sphere which its diameter 6 cm. = ..... cm <sup>3</sup> A) $4\pi$ B) $9\pi$ C) $36\pi$ D) $27\pi$	C
91	A volume of the sphere equals $32\sqrt{3}\pi$ cm <sup>3</sup> , its radius length ..... A) $\sqrt{3}$ cm                      B) 3 cm                      C) $2\sqrt{3}$ cm                      D) 9 cm	C
92	The radius length of a right circular cylinder whose volume is $40\pi$ cm <sup>3</sup> and its height 10 cm. = ..... cm. A) 5                      B) 3                      C) 2                      D) 1	C
93	If a volume of a cube is $L^3$ cm <sup>3</sup> , then the total area is ..... cm <sup>2</sup> A) $4L^3$ B) $6L^3$ C) $4L^2$ D) $6L^2$	D
94	The S.S. of equation : $\sqrt{2}X = 2$ in $\mathbb{R} =$ ..... A) $\{\sqrt{2}\}$ B) $\sqrt{2}$ C) $\{2\}$ D) $\{2\sqrt{2}\}$	B
95	The S.S. of equation : $X + \sqrt{2} = \sqrt{8}$ in $\mathbb{R} =$ ..... A) $\{\sqrt{2}\}$ B) $\sqrt{8}$ C) $\sqrt{6}$ D) $\sqrt{4}$	A
96	The S.S. of the inequality : $0 < X + 5 \leq 6$ in $\mathbb{R}$ is ..... (a) $]5, 11]$ (b) $] -1, 5]$ (c) $[-5, 1[$ (d) $] -5, 1]$	D
97	The S.S. of the inequality : $-X > 2$ in $\mathbb{R}$ is ..... (a) $\{2\}$ (b) $] -\infty, 2[$ (c) $]2, \infty[$ (d) $] -\infty, -2[$	D
98	If $-1 < -X \leq 5$ , then the S.S. in $\mathbb{R}$ is ..... (a) $[-5, 1[$ (b) $[5, -1[$ (c) $] -5, 1]$ (d) $] -5, 1[$	A
99	The S.S. of equation : $\sqrt{2}X = 2$ in $\mathbb{R}$ is ..... (a) $\{\sqrt{2}\}$ (b) $\sqrt{2}$ (c) $\{2\}$ (d) $\{2\sqrt{2}\}$	B
100	$\{X : X \in \mathbb{R}, X < 1\} =$ ..... (a) $0, -1, -2, \dots$ (b) $] -\infty, 1]$ (c) $] -\infty, 1[$ (d) $] -\infty, 0]$	C
101	If : $X \in \mathbb{R}, 1 - 7X >  -8 $ , then $X <$ ..... (a) 1                      (b) -1                      (c) $\frac{9}{7}$ (d) 0	B



102	If : $2 < x < 5$ , then $3x - 1 \in \dots\dots\dots$ (a) $]3 , 12[$ (b) $]6 , 14[$ (c) $]5 , 15[$ (d) $]5 , 14[$	D												
103	Which of the following represent linear relation ? A) $xy = 2$ B) $x^2 = \frac{1}{y}$ C) $\frac{x}{y} = 1$ D) $y = x^2 + 4$	C												
104	Which of the following satisfies the relation : $2x + y = 5$ ? A) $(-3 , 3)$ B) $(1 , 3)$ C) $(3 , 1)$ D) $(2 , 2)$	B												
105	$(3 , 2)$ satisfies the relation ..... A) $y + x = 5$ B) $y - x = 5$ C) $3y - x = 2$ D) $2x + y = 1$	A												
106	$(3 , 2)$ does not satisfy the relation ..... A) $y + x = 5$ B) $x - y = 1$ C) $y + x = 7$ D) $3y - x = 3$	C												
107	Value of b where $(-3 , 2)$ satisfies the relation : $3x + by = 1$ is A) 3 B) 5 C) 4 D) 0	B												
108	If : $(a , 1)$ satisfies the relation : $2x + 3y = 7$ , then $a = \dots\dots\dots$ A) 2 B) -2 C) 4 D) 3	A												
109	If : $(k , 2k)$ satisfies the relation : $3x + 2y = 14$ , then $k = \dots\dots\dots$ A) 2 B) -2 C) 7 D) 0	A												
110	<p> The opposite table shows the relation between <math>x</math> and <math>y</math> , which is .....</p> <table border="1" data-bbox="1131 1762 1793 1941"><tr><td><math>x</math></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td><math>y</math></td><td>1</td><td>3</td><td>5</td><td>7</td><td>9</td></tr></table> <p>(a) <math>y = x + 4</math> (b) <math>y = x + 1</math> (c) <math>y = 2x - 1</math> (d) <math>y = 3x - 2</math></p>	$x$	1	2	3	4	5	$y$	1	3	5	7	9	C
$x$	1	2	3	4	5									
$y$	1	3	5	7	9									
111	The slope of the straight line parallel to the $x$ - axis is ..... A) Positive B) Negative C) Zero D) Undefined	C												
112	The slope of the straight line parallel to the $y$ - axis is ..... A) Positive B) Negative C) Zero D) Undefined	D												
113	The slope of horizontal line is ..... A) 1 B) Zero C) -1 D) Undefined	B												
114	Slope of straight line passes through $(-2 , 3)$ and $(2 , 3)$ is ..... A) 2 B) 1 C) Zero D) Undefined	C												



115	Slope of straight line passes through ( - 3 , 1 ) and ( 2 , 5 ) is ..... A) $\frac{4}{5}$ B) $-\frac{6}{1}$ C) $\frac{5}{4}$ D) $-\frac{1}{6}$	A
116	Slope of straight line passes through ( 3 , y ) and ( 5 , - 2 ) is - 3 , then y = ..... A) 2                      B) 4                      C) 6                      D) -30	B
117	If the Slope of straight line $aX + by + 1 = 0$ is undefined , then ..... A) $a = b$ B) $a = \text{zero}$ C) $b = \text{zero}$ D) $a = -b$	C
118	Relation : $X - 5 = 0$ is represented by a st. line whose slope is ..... A) 0                      B) - 5                      C) 5                      D) Undefined	D
119	In the opposite figure : The slope of the straight line L is ..... (a) positive.                      (b) negative. (c) zero.                      (d) undefined.	 C
120	The slope of the straight line L in the opposite figure is ..... (a) positive.                      (b) negative. (c) zero.                      (d) undefined.	 B
121	In the opposite figure : The slope of the straight line L is ..... (a) zero.                      (b) undefined. (c) 1                      (d) $\frac{1}{2}$	 C
122	The mean of the values : 2 , 5 , 4 , 5 is ..... (a) 4                      (b) 5                      (c) 16                      (d) 8	A



123	If the arithmetic mean of the values : 27 , 8 , 16 , 24 , 6 and k is 14 , then k = ..... (a) 3 (b) 6 (c) 27 (d) 84	A
124	If the mean of marks of 5 pupils is 20 , then the total of their marks = ..... marks. (a) 4 (b) 15 (c) 25 (d) 100	D
125	The lowest limit of a set is 4 and the other limit is 8 , then its centre is ..... (a) 2 (b) 4 (c) 6 (d) 8	C
126	If the lowest boundary of a set is 10 and the upper boundary is X and its centre is 15, then X = ..... (a) 10 (b) 15 (c) 20 (d) 30	C
127	If the lower limit of a set is 18 and its centre is 20 , then its length is ..... (a) 2 (b) 19 (c) 22 (d) 4	D
128	The arithmetic mean of the values : $3 - a$ , 5 , 1 , 4 , $2 + a$ equals ..... (a) 1 (b) 2 (c) 3 (d) 15	C
129	The mean of the values : $2 - a$ , 4 , 1 , 5 , $3 + a$ is ..... (a) 1 (b) 2 (c) 3 (d) 15	C
130	The order of the median of the set of values : 8 , 4 , 7 , 6 , 5 is ..... (a) 7 (b) 6 (c) 3 (d) 5	C
131	If the order of the median of a set of values is the fourth , then the number of these values is ..... (a) 3 (b) 5 (c) 7 (d) 9	C
132	If the median of the set of the values : 27 , 45 , 19 , 24 and 28 is X , then X = ..... (a) 24 (b) 27 (c) 28 (d) 45	B
133	The median of the values : 1 , 2 , 5 , 3 and 4 is ..... (a) 3 (b) 4 (c) 5 (d) 2	A



134	The median of the set of the values : 3 , 6 , 6 , 7 , 9 , 11 , 13 , 14 , 15 and 20 is ..... (a) 9 (b) 10 (c) 11 (d) 20	B
135	The mode of the values : 3 , 5 , 3 , 6 , 3 and 8 is ..... (a) 3 (b) 5 (c) 6 (d) 8	A
136	If the mode of the set of the values : 4 , 11 , 8 , 2 X is 4 , then X = ..... (a) 2 (b) 4 (c) 6 (d) 8	A
137	The mode of the values : 15 , 9 , X + 1 , 9 , 15 is 9 , then X = ..... (a) 9 (b) 14 (c) 10 (d) 8	D
138	The mode of the set of values : 5 , 9 , 5 , X - 2 , 9 is 9 , then X = ..... (a) 5 (b) 57 (c) 9 (d) 11	D



# كيفية طباعة صفحات معينة من ملف معين

## مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



خطوة 1



خطوة 2  
اختيار اسم  
الطابعة  
بتاعتك

خطوة 3  
كتابة الصفحات  
المراد طباعتها  
نكتب رقم 4 ثم  
نكتب الشرطة  
دي - ثم نكتب 9

خطوة 4  
اختيار نوع الورق



خطوة 5  
اختيار A4



خطوة 6